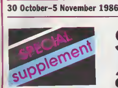
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POPULAR Computing WEEKLY

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30 October–5 November 1986 Vol 5 No 44



Sugar hits out at PC critics

THE SPECTRUM
Saga Compliment – full review

Home control with the Red Box system



REVIEWS

Sepulcri from Ariolasoft

Firelord from Hewson

starts on p 22



NEWS DESK

Gallup speaks out on chart changes

Pirates ahoy! Robtek withdraws games

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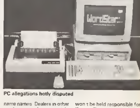
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ABC

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Amstrad acts over PC allegations



PC allegations hotly disputed

AMSTRAD is currently considering legal action over suggestions that ICI would not purchase its PC in bulk because of doubts over its reliability The company s share price fell from 128p to 116p after the Sunday Times quoted an ICI source as saying the machine could be prone to overheating

In the wake of the share price drop Amstrad hand-delivered a press statement categorically denying the allegations, and this seems to have stopped the slide Speaking to *Popular* the Amstrad chairman described the allegations as "a pack of lies" and said the matter was in the hands of the company's lawyers He would not however, comment on what action the company proposed to take

The statement itself refers to a "concerted dirty tricks campaign" designed to damage Amstrad, but although Sugar says he knows who is responsible he refuses to name names Dealers in other machines are however, taking the rumour up with gusto He categorically denies the overheating allegation claiming that Amstrad has tested a wide range of add-on cards in the machine, but says he won t be held responsible for "some Taiwanese card that won t even run in an IBM

Nor does he accept that the future of the PC rests on whether or not ICI decides to buy it "We have loads of corporate clients already

HERE we see Geoff Heath, erstwhile boss of Melbourne House and Activision, and now preparing for his latest post as head of new business development at Mastertronic

Our more alert readers will note that he's changed somewhat in the previous week, but before putting this down to the strain of the new job they should be aware that the picture we published last week was in fact William Pool of New Star Apologies to all concerned

Mastertronic in talks over Gallup charts

MASTERTRONIC'S sudden absence from the games software charts (see last week s News Desk) is likely to be short lived Gallup, which compiles the charts, concedes that the addition of W H Smith to the chart panel has weighted the chart against Mastertronic and has been talking to the company in an attempt to get a more accurate picture of Mastertronic s sales levels

"Inevitably our figures undervalue the total size of the budget business, says Godfrey Rust of Gallup The Gallup chart he says, is intended to show what s selling in the high streets and therefore many of Mastertronic s outlets will never be featured W H Smith, however, doesn t stock Mastertronic products so its arrival in the charts has thrown them out of balance

Gallup will however, be talking to Boots about joining the chart panel this week and hopes that this plus the addition of a few other retailers will put the charts right Boots currently uses its own chart which is simply a list of the products the company expects to sell

Frank Herman of Mastertronic feels that Gallup now recognises the importance of getting a better representation of the company s sales in the charts, "otherwise they re just going to keep on publishing misleading information

But Rust is keen to stress that Gallup wasn t going to back down by not including Smith s data just because it creates a problem in another area

"The importance of our data is shown by how concerned Mastertronic are," he says

Budget range to Power Up PC

US SOFTWARE producer Channelmark Corporation is bringing its range of Power Up! programs into this country Company president Ed Lauing describes the products as "accessory software" The packages are priced between £25 and £60 and generally perform a single task either as a stand-alone program or as a desktop accessory

The software range includes a calendar designer grid designer, text retrieval system and poster production program

Details from Power Up! Imperial House Lower Teddington Road Kingston-Upon-Thames, Surrey KT1 4EP (01-943 4366)

Ocean story was dead wrong

OCEAN S decision to abandon the Amstrad version of *Superbowl* has had a strange knock-on effect — programmer Tony cooper is having trouble convincing people he s still alive

Ocean had explained to the Advertising Standards Authority that the Amstrad conversion had been dropped because of the death of the programmer, and as Cooper was doing the conversion he found he had a problem

"People laugh at me when I say I m Tony Cooper They say but you're dead aren t you?

"It is bizarre, says Colin Stokes of Ocean "it's blown out of all proportion I had a conversation with the ASA and I told them that the guy who was putting all the logic in the game together was killed" According to Stokes, people have simply drawn the wrong conclusion

"We wouldn t make up something like that," he says

Mastertronic to act after piracy claim



MASTERTRONIC was last week planning legal action against IJK Software for piracy

According to Mastertronic spokeswoman Alison Beasley *Crimebusters Inc* a recent release from IJK, is almost an exact copy of Mastertronic s *Spellbound*

The *Crimebusters* inlay credits Harry Price with the programming but Beasley claims that it has been only slightly modified from the Mastertronic program written by David Jones We ve issued a very strong letter urging them to settle the matter now, and if they don t they'll be sorry

It s beyond belief that they should rip off such a well known program She finds it particularly annoying that the IJK game retails at £6 90 while the Mastertronic original is, as usual £1 99

Another of IJK s releases, *Quest for Freedom* a £1 99 Electron game is similar to Audiogenic s *The Last of the Free* with even the wording on the inlay cards having a great deal in common



Free for all?



Henry Smithson of Audiogenic says that the game is his copyright but won t decide what action to take before he s seen a copy

Audiogenic s programmer had sent an evaluation copy to IJK prior to signing with Audiogenic but although he was paid £300 to rewrite four screens of it for the Electron for IJK Smithson says he wasn t told it was to be released

I m not particularly worried " says Smithson It s tantamount to sharp practice to get somebody to write something then release it without telling them, but he (the programmer) isn t out of pocket, plus he s still got the Electron "

Commodore knocks £500 off Amiga price

COMMODORE effectively cut the price of the Amiga by £500 last week, bringing the price of the basic system of 256K Ram, single drive, monitor and mouse down to £975 and the twin drive system down to £1,175

In theory the cut only applies to existing Commodore owners and according to a spokesman will only be valid until the end of November Commodore has a list of 400,000 people in this country who have at one time or another registered a guarantee card with the company and these should have received a letter offering the Amiga discount at the beginning of this week

With numbers of this size, however, Commodore is unlikely to be able to stop anyone who wants an Amiga using somebody else's letter and as the object is to sell large quantities of Amigas it s equally unlikely that the company cares The Amiga has so far sold 120-150,000 worldwide but hasn t made much impression in the UK

Commodore is adamant that the offer is only valid until the end of next month, but as the company intends to launch two new Amigas at Comdex shortly the existing Amiga may well be discounted beyond that



Amiga: Commodore cuts it down

Electron gets adventure system

INCENTIVE S *Adventure Creator* is to be released for the Electron towards the end of November, price £14 95 The system can handle complex sentences with multiple command lines and features text compression and a chain command that allows adventures to be strung together into multi-part games

Details from Incentive Software, 54 London Street Reading RG1 4SG Tel 0734 591878

Intelligent modem launched for PC

THE Pacer is an intelligent autodialling card modem for the IBM PC and compatibles which can communicate in a range of modes up to 2400 bauds It includes Hayes compatible autodialling and will operate with various comms software packages, including *Crosstalk*, *Smartcom Relay* and *Softerm* It costs £595

Details from Penril Datacomm 387 Sykes Road Slough Trading Estate Slough, Berks SL1 4SJ Tel 0753 821898

Piracy forces withdrawal of Robtek tape

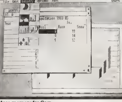
ROBTEK has promised to withdraw its *King Size* MSX compilation tape after the revelation that three of the games included had been pirated Copyright to the three, *Exploding Atoms*, *Vicious Viper* and a version of *Othello*, is owned by MSX specialist Knights Computers, which still sells them at £5 99 each

The version of *Atoms* supplied by Robtek does not work properly says Knights owner Graham Knight When they deleted our copyright notice from the program they also deleted a hidden but vital line of code ' The name of *Vicious Viper* has been changed on the inlay to *Snakes* but the game itself hasn t been altered, even retaining the copyright notice *Othello* retains a Knights logo on every screen

A Robtek spokeswoman told *Popular Computing Weekly* that it had stopped selling the product and had apologised profusely to Knight ' The games had, she said, been sold to Robtek by a third party ' She was however, unable to name the person or company concerned.

Graham Knight hasn't yet decided whether to take the matter further, but says he'll probably wait to see if the product currently on sale is withdrawn He does, however complain that Robtek hasn t given him the name of the pirate and surmises that Sanyo and Mitsubishi who bought large numbers of the full price programs from him, are likely to be interested in the matter

He doubts that Robtek is guilty of anything other than carelessness Anyone who copies a program and doesn t remove the copyright notice has got to be crazy he says



More memory for Gem

DR to launch new Gem version

DIGITAL Research, which produced the Gem graphic environment used by the Amstrad PC is to launch Gem XM, an enhanced version of the system, next week DR won t talk about the product prior to the launch, but describes it as a major development of the standard Gem " although not a replacement for it.

Gem XM will however be a system in the same vein as Concurrent Dos XM (Extra Memory) designed to address larger quantities of memory than the 640K available under MSDOS It will not support true concurrency, where several programs can run simultaneously in a computer's memory, but will be able to store several programs in memory at once and switch between them

The new version of Gem is a response to the PC s 640K limit (the ST can address a total of 16Mb), which is likely to become a serious limitation over the next few years

Various manufacturers are, however now producing add-on memory boards that allow users to control up to 8Mb, and the production of a Gem system that takes advantage of this is a logical step for DR.

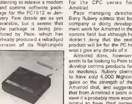
The company's ultimate goal is to produce a version of Gem that provides true concurrency but it s likely to be some time before this appears

Amstrad plans modem for PC1512

AMSTRAD is thought to be planning to release a modem and comms software package for the PC1512 in January Few details are as yet available, but it seems that the package is being produced by Pace, which has already produced a rebadged version of its Nightingale modem and a serial interface for the CPC series for Amstrad

Pace managing director Barry Rubery admits that his company is doing development work for Amstrad in the comms field but although he doesn't deny that the next product will be for the PC he won t give any details of it

Amstrad does, however seem to be looking to Pace to develop comms products for its machines. Rubery claims to have sold 4,000 Nightingales on the strength of the Amstrad deal, and suggests that from Amstrad s point of view it s probably more economical to have third parties produce add-on products than to produce them itself



Pace's serial interface

NewStar denies policy change

NEWSTAR Software has raised the price of *NewWord 2* and *3* packages, from £69 95 and £249 to £149 95 and £299 respectively

However NewStar s boss William Poel denies that this marks any change of policy

We ve put the prices of these two products up but the other 300 products all remain the same With *NewWords 2* and *3*, we had difficulty getting people to believe that the products were an upgrade to *WordStar* itself at the previous price

Footnotes

SIR Clive Sinclair may have been out of the public eye for a while, but the slings and arrows continue to pursue him Take this piece of gobbledegook from Penguin s blurb for recently published Sinclair and the Sunrise Technology, by Adamson and Kennedy 'The legend of Clive Sinclair is almost unparalleled in recent times Known affectionately as Uncle Clive to millions of home computer buffs, many of whom broke their teeth on the Sinclair range of micros '

On top of his other problems now he faces product liability suits for dental bills



Karate Kid II

Software Hotlines

YOU VE heard of MUD, haven t you? That s it the Multi User Dungeon that on line multi player adventure which 870 odd people are subsonbing to Well here s some great news for the shy amongst you or the plain anti social Soon you ll be able to play a version of MUD on your home micro all alone and off-line Called *Micro MUD*, and initially for the Commodore 64, it contains all the major fetures of the Land of MUD, which should be a great help for anyone planning to join the on line version

MUD like all multi-player

Space Station

games is all a matter of speed – he who gets to the treasure first said Simon Dally of **MUSE** *Micro MUD* is a way of learning your way around MUD off-line ''

Written by MUD enthusiast Jon Stuert, the game features intelligent mobiles' including analogues of such infamous MUD characters as Jez the Wizard Jon spent over a year compressing the game into a single user version continued Simon 'At first I was very sceptical about whether it could be done, but it s turned out well ''

Mosaic will be publishing the program in this country early in the New Year initially on Commodore disc only but Amstrad disc versions are planned No price has been set as yet

Talking of MUD the system is currently on alpha-test on the American network **Compuserve** The name MUD is a little too obscure for those 250 000 delicate minds apparently, so they re calling it British Legends Right on **Compuserve**

If you re interested in joining the British on-line version MUD packs including your first three hours play free are available for £4 95 by calling **MUSE** on (voice line) 01-608 1137 And if you want to try it for nowt, dial 01-998 8899 (1200/75) using the logon MUDGUEST and the password PROSPECT" That ll give you a six minute taster

What? UK originated ST software from **Microdeal**? Tis true **Microdeal** is set to launch two ST programs *Karate Kidd II* and *Space Shuttle* (see screen shots below) *KK II* is of course, a film tie-in – although exactly how many ST owners have seen that movie – or would want to – is open to question

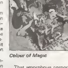
But the graphics look impressive so the title may well give **System 3's** *International Karate* on the ST a run for its money

Karate Kid II and *Space Shuttle* both priced £24 95 are due out mid-November

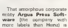
PSS MD Gary Mays describes himself and programmer Mike Simpson as optimists

You can put your own interpretations on that, but whatever, expect to see *Heroquest*, the follow-up to *Swords and Sorcery* hitting the streets well before Christmas on the Spectrum

Having surveyed 1000 purchasers of *S&S Mk I* **PSS** have taken on board what people liked and disliked about the game (largely considered a flawed masterpiece) and the resulting program has a larger playing area, bigger graphics and is generally more accessable More details as they come in



Colour of Magic



That amorphous corporate entity **Argus Press Software** (the company with more labels than Heinz) is coming up with some pretty interesting goodies in the run up to the feative season, including yet another label called **Grand Slam**

Primarily set up for sports simulations and the like, the first release will be *Peter Shilton's Handball Maradona* out next month at £8 99 Some golden oldies such as *Alien* and *American Football* will be turning up on the **Sug Syte** label at £2 99 and **A&F** will continue where **CRL's** *Room 10* left off in the current futuristic games front with *Xeno* Computer penny football it may be but it s great With SDI in the news, you could try out *Defcom* – yup it s those aliens invading again

Read the book – *The Colour of Magic* Written by the semi-visionary Terry Pratchett (out in Corgi paperback) it s a real antidote to Tolkienism The adventure by **Delta 4** via **Pirhana** promises to be good too if the original is anything to go by

Lastly what s going on at **Telecomsoft**? **Odin** appears to have blown the release date for a game called *The Plot* (Nov 5 and all that) After six months plus of development time, **Torus** (for **Firebird**) has got precisely nowhere with the *Hive* and **Rainbird** is planning to release a game called *Deplete* where you take a Cobra Mk 3 with mining lasers, millions of credits, etc and must lose them

Got that?

John Cook





Xeno

Product News

HiSoft C'zes chess opportunity

IF your chess playing isn't up to scratch, HiSoft's *SeaChest* could be the program you're looking for. It's a full-function chess program for the Amstrad CPC6128 and PCW machines, and is written in *HiSoft C*. The difference between this and other chess programs is, however, that the source code is included on the disc, and the program comes with a manual covering the theory and algorithms of chess programming.

Anyone wishing to rewrite the game can therefore do so with the aid of *HiSoft C*. *SeaChest* is £19.95, while *C* is £39.95.

The company has also released *Forth* for Amstrad's CP/M machines at £19.95 and a Basic compiler for the Spectrum (48K, 128K and Plus 2) for £16.95.

Details from HiSoft, The Old School, Greenfield, Bedford MK45 5DE. Tel 0525 718181.

Gilsoft launches son of Quill

QUILL developer Gilsoft has produced a new adventure writing system *The Professional Adventure Writer*, which features a powerful text parser, facilities to create pseudo intelligent characters and text compression routines.

The first versions of the system will be available for the Spectrum in November, and will be followed by implementations on the 64, Amstrad CPC, PC and Amstrad PCW. It costs £22.95.

Gilsoft has also released *The Press*, a text compressor for the *Quill*, at £6.95, and has reduced prices on the *Quill* and *Illustrator* to £8.95 each or £16.95 for both (£19.95 for the 64 and CPC disc versions).

Details from Gilsoft, 2 Park Crescent, Barry, South Glamorgan CF6 8HD. Tel 0446 732765.

Opus goes for graphics on PC

OPUS has added IBM Enhanced Graphics models to its range of PC compatible machines. The new versions have an IBM EGA (Enhanced Graphics Adaptor) fitted as standard and come with a higher resolution monitor.

The company bills the entry level machine (with single drive and 256K Ram) as "the first complete EGA computer system to be offered for under £1,000" (it's £996 ex VAT, or £1,174 retail). It is not, however, much of a price breakthrough. Opus EGA card costs £230 on its own, and has 256K Ram fitted. A top of the range EGA standard card from Interquadram or AST with 640K of screen Ram fitted costs around £300.

So the cost advantages of the Opus PC don't seem to have been transferred to its add-ons.

Training aids launched by CSD

CSD is to produce a range of 'software starters' designed to be used as training aids for owners of IBM and compatible machines. The first product is the MSDOS *Software Starter*, which costs £19.95.

The package consists of a tutorial disc as a training guide and audio aids explaining computer jargon.

Future products in the range will include tutorials covering specific database, word processing and spreadsheet packages.

Details from CSD, Unit B11 Armstrong Mall, Southwood Summit Centre, Southwood, Farnborough, Hampshire GU14 0NP. Tel 0252 522200.

Diary Dates

OCTOBER

30–31 October
Hampshire Computer Fair
Guildhall, Southampton
Details Business computers
Price. Free entry by business registration
Organiser Testwood Exhibitions, 0703 31557

NOVEMBER

1 November
Kent Dragon Show
Maidstone Methodist Hall, Brewer Street, Maidstone
Details Local Dragon show
Prices £1 adults, 50p children
Organiser Computape, 0621 772589

7–9 November
Electron and BBC Micro User Show
New Horticultural Hall, Greycoat Street, London SW1
Details Hardware, software and peripherals for the Electron, BBC micro and Master series
Prices £3 adults, £2 children, £1 discount for advance booking
Organiser Database Exhibitions, 061-456 8835

8 November
UKEUG National Einstein Show
National Motor Cycle Museum, Birmingham
Details. Einstein software and hardware
Price Free
Organiser UKEUG 07982 2390

15 November
Wales and West Computer Show
Central Hotel, Cardiff
Details All types of home computer and support
Price £1 adult, 50p children
Organiser Preston Exhibitions, 0659 860965

21–23 November
The Commodore Computer Show
Novotel, Hammersmith, London W6
Details Hardware, software and peripherals for the Commodore range of computers
Price £3 adults, £2 children, £1 discount for advance booking
Organiser Database Exhibitions, 061-456 8835

22 November
6809 Show
Old Halls of the Royal Horticultural Society
Details Show for the Dragon and Tandy Colour Computers
Price £2.50 adult, £1.75 children, reduction for advance purchase
Organiser Jenny Pope, Microdeal 0726 68020

28–30 November
The Atari Christmas Show
New Horticultural Hall, Greycoat Street, Westminster, London SW1
Details Hardware, software and peripherals for the Atari range of computers
Price £3 adult, £2 children, £1 discount for advance booking
Organiser Database Exhibitions, 061-456 8835

29 November
Wight Computing Fair
Ryde Town Hall, Ryde, IoW
Details Local show covering wide range of subjects
Price N/A
Organiser Wight Computing Users Group, 10 John Street, Ryde, Isle of Wight PO33 2PY

Prices, dates and venues of shows can vary, and you are therefore strongly advised to check with the show organiser before attending. *Popular Computing Weekly* cannot accept responsibility for any alterations to show arrangements made by the organiser.

Letters

Tatung saluted

Firstly may I say that I am not a supporter of the bundled monitor I believe that users should have a choice as to whether they want to use a TV or a monitor Having said that

May I salute Tatung for its new Einstein 256 This includes a decent high definition colour monitor, unlike the Amstrad CPC 6128 whose monitor is no better than my Amstrad TV for 80 column work

Tatung has also improved the connection between monitor and keyboard – there is only one lead

The high definition monitor allows you to take advantage of the Einstein s superior graphics However, I fear these will not be used by software houses as nowadays they release a game on several machines at once using (almost) common modes and conversions and hardly ever improved versions

I believe the 256 will be caught in the vicious circle no software – no sales, no sales – no software

So please, software houses, support this machine – you would if it were Clive s baby!

Neil Olner
Doncaster

Appalled by Amstrad

I am appalled by Amstrad s blanket ban on copiers, its unwarranted assumption that these products are used only for piracy and its claim that these products are illegal and shouldn t be marketed

Obviously no one concerned has ever worked in the mainframe computing field, even at college otherwise they would know that in professional computing at least back-up copying is not just accepted it is standard practice

Magnetic media are not infallible (even if your disc/tape drive is clean and working properly, you could still spill coffee over your media or leave them too near a loudspeaker – I ve had both these happen) There is nothing either immoral or illegal (Copyright Act 1956) about copying tapes which you have bought and paid for (or won, etc)

Of course it is illegal (it's piracy, in fact) to dispose of such copies, or to keep the copy and dispose of the original, or to copy programs borrowed from others, but this does not mean that there is anything illegal/immoral about copier software or hardware and certainly not if used in the strictly intended fashion, for back-up copies only

True, copiers could be used for an illegal purpose – but then, so could virtually anything else

Curbing piracy by banning copiers is like curbing drunken driving by banning cars If a true solution to this problem is needed it should take the form of issuing software on compact disc or Rom cartridge both of which are virtually indestructible, thus making back-up copying necessary

Robert J Baker
London SW4

You're treading on dodgy ground by saying that there is nothing illegal/immoral in copying for one's own use. Look in the front of any book and you will find the message that the book must not be reproduced in electronic form – or similar wording – without the express permission of the publishes. The copyright law has been updated (1985) to bring computer software into line with the written word

The points you make all hinge on one thing – the permission of the manufacturer/publisher Where software manuals suggest you make a back-up copy – as with many disc programs – then you have permission to do so The publishers will not then put anything in your way in the form of protection to prevent you doing so. If there is no such rider with the package then no permission has been granted

But copying devices are frequently designed to help you get round protection routines – there would be no point in them existing if they didn't. Nor do they come with endorsements from software companies stating that with the copier you may now reproduce their programs

The argument really lies with the software companies as to whether you should be allowed to make back-up copies – the question of third party copying devices is a fringe issue.

Check the Checksum

I read with interest S Hoel s letter in *Popular* October 9 I like his/her solution but I must disagree concerning the checksum

The checksum is at bytes 67 and 68 not 66 and 67 as stated and it is a checksum of bytes 0 to 66 of the header It has nothing to do with the contents of the file This checksum is used by Amsdos to check if a header exists

Indeed, it is this checksum, or rather the lack of one in *Com* files which caused S Hoel s problem in the first place

Another (better?) solution to the problem of loading *Com* files under Amsdos is to read the file in one character at a time by repeatedly calling *Cas in Char &BC80* The following assembler listing illustrates how this is done

Incidentally if the file is loaded to its correct address at first the correct default load address will be written to the header when the file is saved

```
WHERE  EQU #2000   specify your own
                   load address
  LD B 12          length of the
                   name
  LD HL, NAME      address of the
                   name
  LD DE BUFFER     address of a 2K
                   buffer
  CALL #BC77       cas in open
  LD HL, WHERE

READ  CALL #BC80   cas in char
  LD (HL) A
  INC HL
  JR NC FINISH     carry false on
                   EOF and error
  JR READ

FINISH  CP #1A     ignore CP/M EOF
                   character
  JR Z READ
  CALL #BC7A       cas in close
  RET
```

Puzzle

PUZZLE No. 231

Membership of the Eccentric s Club is restricted to those of a particularly eccentric way of life Four of the members have a peculiar eccentricity which governs the days on which they will attend the club

For example, Colonel Custard will only be found there on Thursdays while Professor Fodd will only enter the club on dates which are exactly divisible by five Similarly, Dr Dumkins is only present every eighth day (irrespective of the actual date) while Herr Klinker is there every day but only if there is an R in the name of the month

Now the club is open every day of the year and it so happens that on December 25th 1986 *all* four members will be present (as this happens to be a day that falls on Dr Dumkins eight day cycle)

Can you say when *next* they will all be present on the same day?

Solution to Puzzle No. 226

The minimum number of balls that must be removed is one This is because if you remove a ball from box 1 and it is red then the other ball must be white Therefore box 3 contains two reds because it cannot contain two whites and box 2 therefore contains two whites

This procedure can be carried out on any of the three boxes

Winner of Puzzle No. 226

The winner this week is Alan Northcott of Winnersh Berkshire who will be receiving £10

Rules

The closing date for Puzzle No 231 is November 17 Answers on a postcard please

```
NAME DEFM    "TEST    COM'   note the
                             four spaces
                             in the name
BUFFER DEFS #800
```

Now save the file as normal

If anyone would like to know more about loading and saving files, I am currently covering this subject in WACCI, an Amstrad user club newsletter. I can put prospective members in touch with the secretary

Alex Aird
139 Bromford Road
Hodge Hill
Birmingham B36 8HR

Help wanted

With reference to Andrew Bowman's letter regarding his experiments with his printer and Commodore 64 (*Popular* September 18)

I have tried to adapt his routine to work on the Commodore Plus/4 with a Commodore MPS 803 printer, but without any success

The problem is that I would like to use the routine along with the inbuilt 3+1 word processing software, to give my letters a better appearance. What I would need would be a small machine code program that could be kept in memory somewhere, and which could be activated with a Sys call before turning on the 3+1 word processor

Can anyone help me in this matter?

Robert Miller
Glasgow

The £100 question

Could you produce a comparison chart for the Commodore 64 and 64c just to show what's supposed to make the 64c worth approximately £100 more?

I ask because not one magazine has given any hint as to the difference, if any, of this 64c from the 64. Certainly Commodore seems to be keeping extraordinarily quiet about it

It's hilarious – when Amstrad bought the Sinclair Spectrum did it also buy the infamous built-in delay period ?

E Le Marquand
Jersey

For full information on the Commodore 64c package see *Popular Computing Weekly*, October 16 for a report on the 64c Connoisseur's Compendium and what it contains. Also, look out for our series of buyer's guide supplements in November when we'll go into the Commodore range in some detail

Put very briefly, though, in the £249 64c package, apart from the restyled 64 casing, is the Mouse and Cheese graphics package, plus an assortment of software: *Monopoly*, *Cluedo* and *Scrabble* from Leisure Genius, *Renaissance* and *Grand Master Chess* from Audiogenic

"Our programmer's handling it right now"

New Amstrad User Group

I would like to inform fellow *Popular Computing Weekly* readers of a new user group which I run for Amstrad computer users

For a minimal subscription, members receive a bi-monthly newsletter, access to a public domain software library plus much, much, more

If anyone is interested, could they please send me a stamp and I'll be happy to send them full details

Gary Carter
United Amstrad User Group
1 Magnolia Close
Fareham
Hants

The game goes on

Grand drama in the *Popular* vs *Colossus* chess tournament – *Colossus* has put you all in check in Game one. Now get out of that . . .

Actually it shouldn't pose too many problems, as you can see from the diagram. In Game two, the Readers' team playing White elected to move the knight from d4–b5. *Colossus* has opted to push out a pawn in reply

Now we want your suggestions for the next moves. Send your entry, one for each game to *Popular* Chess, Unit 2, South Block, The Maltings, Sawbridgeworth, Herts CM21 9PG, to arrive by November 5

The moves gaining the most votes will be entered into each game, and *Colossus* will make its response. The next stage will be printed here in a fortnight's time

The prizes!

The person suggesting the greatest number of accepted moves by the end of each game will win a British Museum reproduction Arran chess set. Five more people – the most consistent entrants (whatever the quality of the suggestions) will win a copy of *Colossus Chess* from CDS

Potential winners

As the games progress, there are several people in contention for one of the prizes: **P C Robertson**, the **Woodview** collective (save the postage, Woodview, we can only accept one entry), **Michael Bradley**, **Kevin Garly** and **Karl Hassell**

But they can be overhauled. There's a long way to go yet and it's not too late to join in, so make your moves now

Game One

Game One – you play Black. Your move, please

1	Pe2–e4	Pe7–e5
2	Ng1–f3	Nb8–c6
3	Bf1–c4	NG8–f6
4	Nf3–g5	Pd7–d5
5	Pe4xd5	Nc6–a5
6	Bc4–b5+	?

Game Two

Game Two – you play White. Where do you go from here?

1	Pe2–e4	Pc7–c5
2	Ng1–f3	Nb8–c6
3	Pd2–d4	Pc5xd4
4	Nf3xd4	Pe7–e5
5	Nd4–b5	Pa7–a6
6	?	

New Spectrum User Group address

May I inform all members of the Spectrum Unemployed User Group that all correspondence should now be addressed to 4 Mandeville Road, Brampton, Huntingdon, Cambs PE18 8SB

D Gray

Send in the books

We are holding a Christmas Bazaar on November 15 1986 in aid of the mentally handicapped

We are the parents committee attached to an adult training centre, and we like to try to raise enough money to send them on various holidays each year

We were wondering if any of your readers have any books they could donate to us to sell at our bazaar

We will collect any books ourselves – within a reasonable distance!

J Hales
Nason Waters Association
7 Minster Way
Hornchurch
Essex RM11 3TH

Evesham Micros

PRINTER OFFERS

Check out these offers on top quality printers. All the models offered are substantially reduced from the normal high street prices. Prices are fully inclusive of VAT, delivery and lead to suit any computer with centronics parallel printer port, eg, Amstrad, BBC, Einstein, Atari ST, Oric, Dragon, IBM PC or compatible, Macintosh or MSX. For the CBM 64/128 we supply a user port centronics cable. For Spectrum or QL owners an appropriate interface is supplied for an extra £20.00; for 8-bit Atari models an interface is supplied for an extra £30.00. If you require a detailed print sample of any model please send a S.A.E. stating your requirements. Delivery is by insured recorded delivery and orders are despatched the next working day after receipt, provided we have stock.

PANASONIC KXP 1080

Now an even better price for this popular printer. A huge number of print options can be achieved, the switch selectable NLQ being available in all modes except sub/superscript. The quality of the NLQ is far better than other similarly priced printers. Features include 100 cps draft mode, 20 cps NLQ, friction and tractor feed, Epson compatibility and easy change long life ribbon.

ONLY £179.99

MICRO P. MP165

The best NLQ of any printer in the price range? Most people who see it think so. This printer has proved very, very popular over the last year and even more so at this super competitive price. An unusually high draft speed of 165 cps and its superb switch selectable NLQ at 35 cps make this the class winner for performance per pound. Standard features include friction and tractor feed, 2K buffer, Epson compatibility, quiet operation and full graphics capability. Must be the highest spec available for the price.

ONLY £219.95

STAR NL10

New high specification printer just released. All the usual features PLUS easy front panel selection of most modes, semi automatic single sheet feed, double and quadruple height characters AND plug in interface cartridges. Choose between standard centronics parallel, IBM or Commodore. Ideal for Commodore owners who want the convenience of a CMB ready printer but may wish to change later, just buy a new interface cartridge for £30.00. When reviewing this model in a group test with the Epson LX80, Citizen MSP 10E and others, What Micro magazine referred to it as "the Rolls Royce of these printers". A single sheet feeder is available for £63.00.

OUR PRICE: ONLY £299.00
(state which cartridge required)

JUKI 6100

A superb DAISYWHEEL printer, this model provides the highest quality print that only a daisywheel can provide. Print speed is 20 cps and the daisywheel itself is of the common Triumph Adler type. Ribbons are of the cheap and easily obtainable IBM spin type variety.

ONLY £299.00

MICRO P. MP200

A brand new very high specification dot matrix printer which will print in draft mode at 200 cps and NLQ at 40 cps. Additional font cartridges are available to vary the print style. Most functions can be accessed from the front panel as well as through codes. Another high spec feature is its 8K buffer. It is Epson compatible and has full graphics ability.

ONLY £399.00

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Looking through the Windos

With the increasing popularity of WIMP (Window, Icon Mouse Programs) on a wide range of home computers it's great to see a simple-to-use utility which makes the techniques available to Spectrum programmers using Basic

Windos 2 comes with two demo programs, Ike and Doodle The first is an icon and character designer the second a graphics package Both run using the *Windos* system, and so act both as demos and useful utilities in their own right

Windos 2 is 10½K long, and can be located in any convenient memory space, leaving areas clear for your own program plus any necessary character sets and so on *Windos* commands are accessed using *LPrint* statements which has the side effect of disabling the Spectrum printer routines Any screen displays you want printed must be saved out and printed separately, although there are alternative solutions which programmer Ian Briscoe is working on

The Windos environment looks very much like GFM, with menu headings appearing at the top of the screen, options appearing in inverse print as you move the cursor over them, and 3-D shading effects making the windows appear very smart and solid As usual, a pull-down menu snaps up when you move the cursor off it and the windows open and close themselves very stylishly

Writing a WIMP program – or, more correctly, a WIJP program, since *Windos* uses a joystick rather than a mouse – requires a rethink in your approach to Basic It seems to be largely a matter of forward planning knowing exactly what options you want to present the user and how they can be best grouped into menus

Using either Basic or machine code, *Windos* can be used to place windows at any pixel position on the screen, although the problems of attribute scrolling limit the possible attribute positions to 32 Working in Basic, all calls to *Windos* are made using *Chr$* commands which are used to set the current window number define its size define character sizes access banks of icons, define shading patterns and control the cursor There are escape codes which set more permanent options such as memory locations standard colours, character spacing wraparound and icon bank address

To store information about characters and icons *Windos* uses a CIA – not, as the manual explains some computensed secret service but a Character Information Area This is 512 bytes long and so can store 96x4 byte character definitions Using the *Ike* utility you can redefine these characters, up to a size of 24x24 pixels although *Windos* itself supports characters up to 255x191 pixels

Graphics options with Windos' Doodle

Ike and *Doodle* are very good examples of the results you can achieve with *Windos* (and a good deal of practice!) *Ike* allows you to create group and save icon and character files, while *Doodle* is a graphics package which despite the slow speed of the drawing cursor, has many of the features of advanced packages like Rainbird's *Art Studio* such as selectable fill patterns, brushes magnify, text colours and so forth

Bear in mind that *Ike* and *Doodle* are written in Basic using the *Windos* machine code system calls then imagine what you could achieve if the whole package had had the speed of machine code

Windos 2 is described as 'the bare bones of a system' which will eventually include machine code versions of *Ike* and *Doodle*, a microdrive front-end emulating GEM, a mouse driver a Spectrum 128K version, and more It certainly represents value for money, with a clear manual a frank assessment of its few limitations and an invitation to contact the author with problems or suggestions *Windos 2* can be recommended for programmers who are prepared to invest some effort to make their programs look state-of-the-art

Chris Jenkins

Program *Windos 2* **Micro** Spectrum **Price** £12 00 **Supplier** Windosoft, 32 York Road Maidstone, Kent ME15 7QY.

Keeping in touch with Newfile

Newfile has been covered in *Popular* at least twice already under its CP/M guises of Saxon's *Flexfile* and Amsoft's *Microfile* so I will not go into great detail other than to remind you that it is a simple to use, fast and reasonably powerful database of the cardbox type

It is an ideal first database for those who want to test the water or who only want to run something simple such as a mail merge address list and has some strengths that may make it attractive even to experienced users The selection options are really very good, offering multiple *And/Or* criteria for finding the data you want and many ready made data file templates are available covering diverse applications from estate agents to pig farming. Conversely it puts restrictive limits on the length of key fields

The good news about this PC version is that the much maligned manual has been completely re-written and vastly improved There is also a clever interactive tutorial on the disc which takes you through the program

Most useful of all, the program has been made background memory resident (ie, once loaded you can take the program disc out out and replace it with something else) which not only means that it is much easier to use on a one drive machine but it also has the ability to sit there invisible to any other program you are running, until you press a certain key combination

Instantly the screen changes to *Newfile* ready for you to look up names and addresses, stock lists, house prices or how the pigs are doing down on the farm Suddenly a comparatively ordinary database is transformed into an essential utility adding a powerful new dimension to your spreadsheet, word processor or whatever

Tony Kendle

Program *Newfile* **Micro** IBM PC or compatible **Price** £49 95 **Supplier** Newstar Software, 200 North Service Road, Brentwood, Essex.

How to digitise on your Atari ST for £300 or more

Haba's video digitiser is a box of electronics which takes a video signal (not an RF one) and turns it into a computer display. This display can be manipulated to make it into a suitable form for incorporating into, say, a desktop publishing package or a word processor to produce quality accompanying illustrations.

> *"Once an image has been digitised, it can be saved (for re-loading into the program later) and takes up 65K of disc space. Or it can be saved in a Neochrome/Doodle format for art programs"*

The Haba Video Digitizer is not in fact made by Haba, rather it is imported from the Austrian company, Print Technik, the same firm, incidentally, which made a similar product for the Commodore 64

After removing the packaging, box being too strong a word for it, the systems components are revealed These consist of the digitiser box itself, a connecting lead to the ST's parallel printer port, a power supply and lead, a disc containing the software and a cheaply produced instruction manual Conspicuous by its absence is a video lead with BNC plugs to connect the digitiser to the video source So after paying £299 you'll have to fork out for that if you haven't got one The video source can be a video recorder (displaying a still frame) or video camera Whether the source is in colour or monochrome, it matters not, as the digitiser only produces monochrome displays

Connecting everything up is easy enough, the only problems come from the length of lead available and how close you can get your video source, a video recorder in the case of this review Once everything is plugged in and the unit is switched on, a red LED confirming the fact, then it's time to boot up the software

The first notable thing about the software is that the ST must be in either low (320 by 200 pixels) or high resolution mode As the resolution of the image that the software produces is 512 by 256 you can see that this image will be degraded in low resolution mode However there is a way around this but at a cost

Once loaded a screen with drop down menus is displayed These are *Desk File*, *Options* and *PRN-Param* Assuming that your video source is producing its still image then digitising is extremely easy

Simply access the *Options* menu and point and click on the digitise option If your video source remains still for ten seconds or so, then the digitised image appears on the screen Once an image has been digitised then it can be manipulated in a number of ways

One of these is to alter the number of scan lines which were read from the video signal The default is 256 but it can be changed up to 625 Now, if you're using the computer in low resolution mode and you alter this value you get a better defined image But, and this is the price the image is correspondingly smaller, usually a quarter of normal size

Other options include the zoom function allowing you to zoom into a defined area and expand this to a full screen display

Invert gives you an image resembling a photographic negative, which can be useful for special effects

Mirror simply gives a mirror image of the current display

Look up allows you to assign any of the ST's 512 colours to the sixteen levels of grey used in the digitising process

The final option on this menu is to print out the digitised picture according to the parameters set up in the *PRN-Param* menu

Once an image has been digitised it can be saved in this format (for reloading into the program later) and takes up 65K of disc space Or it can be saved in a *Neochrome/Doodle* format for loading into those art programs and manipulation Also present on the disc are programs to convert *Neochrome* screens to *Degas* format and vice versa

As can be seen from the accompanying low resolution pictures, the finished image is acceptable, while in high resolution the results are substantially better The Haba Digitizer does the job quickly and painlessly and my only complaints, which are directly related, are about the packaging and the price The Commodore 64 digitiser was considered pricey at around £80 but the ST's price tag of almost £300 can only be considered as outrageous

Duncan Evans

Product *Haba Video Digitizer* **Price** £299 95 **Supplier** Haba Systems Ltd, Pier Road, North Feltham Trading Estate, Feltham, Middlesex TW14 0TT



Escape From Enthar 7 made easier

Tony Bridge brings you an overview of Robico's games stable

> *"The plot has you somehow transmitted and marooned onboard an interplanetary space hopper whose orbit above the planet Enthar 7 is decaying"*

Robico Software will be well known to BBC owners for its range of adventures for that machine – the biggest and most expensive is *Enthar 7*. It's a disc-based story, with 450 locations, over 130K of text and 80 objects as well as a massive vocabulary. Because the game is so large, there is a lot of disc access going on, so responses are not always very fast, but the plot evolves in a tense and exciting way.

Like all Robico games, *Enthar 7* is well presented, with lots of options for things like Ramsave, mono or colour display, choice of drive for saving to and so on (and, I'm glad to say, the authors' powers of spelling holds up under the strain for most of the time). Like most modern adventures, the program boasts an advanced command interpreter so that long sentences and multiple commands may be used.

Robico always manages to generate a lot of atmosphere and in the present story this is evident from the very start. It's one of those beginnings where the player finds him or herself in a precarious position with only a certain number of moves before the dreaded *Another game Y/N?* is displayed.

In these circumstances, the only way to progress is to resign oneself to being killed off extremely regularly – actually after about every ten moves.

The plot has you, the player, somehow transmitted and marooned onboard an interplanetary space hopper whose orbit above the planet Enthar 7 is decaying while you are fumbling around attempting to escape.

So, moving around the ship attempting to find all its secrets will have you starting over and over again until all is revealed – but even then, it may be that there is *something* that hasn't been found, or a location left unexplored.

In my haste to escape the doomed vessel I didn't attempt to get through a metal grille in the engine room: unless it is purely there for atmosphere, it must surely have a reason for existence. Although the objects in this part of the adventure are for the most part hidden, they are rather easily found (I think!) and assuming that you survive long enough, the way off the ship is not too hard to fathom out. As a hint, the program can be rather *too* realistic in some ways – so that at the very start you must first type in *Stand Up*.

Once down on the planet's surface, the adventure becomes much more complex (yet another example of the "slow start" I like so much) with a large number of locations and objects to be examined and used in some way. Thanks to the disc access, descriptions are lengthy, and quite a good atmosphere of suspense is built up, even though the player seems to be completely alone in the command centre of *Enthar 7*, which is where the game proper begins.

Enthar 7 will cost BBC+ and Master owners £17.95 for the 2-disc 40 track version, or £16.95 for the 80-track single disc. Electron owners too can indulge for the same price, although there are one or two restrictions (no buffer save, for example). The authors are obviously keen on keeping a high standard with their stories and I recommend this and the others from the same stable to any Beeb owners.

To recap on Robico's catalogue, *Enthar 7* is joined by the Rick Hanson trilogy of adventures, the final part of which includes a competition with the first prize of £100 for the first player to complete the game before April 1987. Also in the catalogue are several arcade games. Robico also runs a Software Club, which for £5.00 a year allows members a good discount on Robico software as well as other offers.

Finally, those who may need help on one of the adventures can now ask for a sheet of hints, clues and solutions, merely by writing (with proof of purchase) to Robico, 3 Fairland Close, Llantrisant, Mid Glamorgan, CF7 8QH.

A few months ago (March, in fact) I mentioned an adventure-creating program for the BBC, *Demonic World*. Then I thought that it was a pretty good effort, let down by a very condescending manual. That was about all, however, as the program itself was everything that the BBC D&D'er could wish for. Of course, it isn't really like D&D at all (what is, after all?) but it's a good attempt nevertheless.

As you can guess, *Demonic World* has been re-worked (particularly the manual, which is now back in the land of the living), and is now a very worthwhile investment for BBC owners who are looking for a bit of hack'n'slay on their machine. The program comes complete with an example game, *Entrance to Hades*, which will give you a very good idea of what can be achieved. Although the adventuring spectrum created by the utility is very narrow, being confined to battle with monsters with spells, exotic weapons and so on, users can create their own very complex "demonic world", as I've said, D&D'ers will be familiar with much of what is going on here, with various levels of quite sophisticated spells, lots of monsters, characters such as clerics, fighters, magic-users and so on.

Adventure Helpline

Going bananas? If you are stuck in an Adventure with nowhere to turn do not despair – help is at hand.

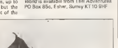
Fill in the coupon, explaining your problem, send it to us, and a fellow adventurer may be able to help.

Remember – the system only works if those adventurers who have solved the puzzles get in touch. Every week is Save An Adventurer Today (SAAT) week!

Adventure .... on (Micro) ....
Problem ....
Name ....
Address ....

These characters also possess the usual requisites such as strength, intelligence and dexterity. Having defined all these parameters, then the locations and objects may be set up, with plenty of room for descriptions (limited only by disc space, as disc access is used throughout the game).

The way the adventure works is, as always with a utility such as this, up to the imagination of the writer, but the problems will tend towards that of the "how to tackle this pond full of deadly piranhas?" type. Very colourful, very playable (and very noisy too). *Demonic World* is available from Tael Adventures, PO Box 85c, Esher, Surrey KT10 9HF.






The spell is broken

More tips, cheats and pokes from Tony Kendle for Spellbound, Sorcery and Frost Byte

This week, to finish off our *Spellbound* tips, especially for Adam Mayor whose own tips for *Knight Tyme* will be appearing very soon, here is a cheat routine from Alex Jones of Basingstoke for getting to any room on the Spectrum version. Load the program as usual but as soon as the first Basic loader is in press *Break* and stop the tape

List this and edit the *Rand Usr 26624* to *Rand Usr 26643* and type *Run* The program will load and run as normal but if you press the *Down* key when not in window mode the game will pause and your Spectrum will make a funny sound Typing any number between 00 to 49 will take you to the corresponding room on the enclosed map Pressing *X* instead of a number will return you to Basic – the game can be restarted by typing *Randomise Usr 26643*

To survive rooms 15 and 18 you must have the glowing bottle or cast Armourus Photonicus To survive E3 you must have cast Fumaticus Protectum If you want to go to F7 make sure you are standing at the very edge of the room or you will find that your game was shorter than expected even if you have infinite energy

I have also enclosed a room inventory

00 The crystal ball
01 Four leaf clover, bottle of liquid
02 Runestone
06 Prism
08 Wand of command
09 Red crystal, ancient scroll
16 Javelin
17 Engraved candle, key
18 Pewter tankard
19 Mirror
20 Saxophone
21 Teleport key
22 Red herring glowing bottle
23 Teleport pad
24 Instruction book
26 Book of shadows
27 Brick
28 Empty bottle
29 Gold bar, cannon ball
31 Blue crystal white gold ring
33 Sticky bun
34 Book of runes, gold goblet
37 Tube of glue
40 Trumpet
41 Shield
42 Pocket laser

"A long awaited letter has arrived from Hackers Unlimited concerning the revised sorcery pokes guaranteed to work on every version of Amstrad CPC"

46 Broken talisman
49 Power pong plant

Florin has the axe, Samsun the elf horn and the platform Elrand the miolnir, the elf bread and Rosnar the willow rod and the fast blow fuse

Now then I m going to call a temporary halt to the proceedings because a long awaited letter has arrived from Hackers Unlimited concerning the revised *Sorcery* pokes guaranteed to work on every version of Amstrad CPC Apparently the originals have been lost in the post and I ve had so many letters from people writing about their whereabouts that I couldn't hold them back any longer

Also enclosed is a routine for infinite extra speed on the CPC version of *Batman* (once you have obtained extra speed you never lose it) which we will print next week There is also an infinite power poke for the same game that lets your *Batman* go anywhere – even on the deadly floors or on top of all of the monsters! You are, however warned not to let *Batman* fall into a room he can t get out of or it will be very awkward indeed

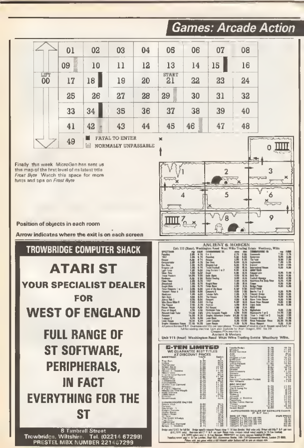
The Hackers would like to publicly welcome T A Shah to their midst, an old friend of this column who sent in the first ever Amstrad pokes With this new and wonderful team we can apparently look forward to CPC pokes for *Bounder, Bombjack, Ghosts n Goblins* and *Green Beret!* Let s hope it is not too long

Charts

Top Twenty

1	(–)	Fist II	Melbourne House
2	(–)	Infiltrator	Mindscape/US Gold
3	(1)	Paperboy	Elite
4	(17)	Druid	Firebird
5	(2)	Trivial Pursuit	Domark
6	(4)	Thrust	Firebird
7	(9)	Dragon s Lair	Software Projects
8	(5)	Ninja Master	Firebird
9	(13)	Ghosts and Goblins	Elite
10	(6)	Dan Dare	Virgin
11	(10)	Ollie and Lisa	Firebird
12	(3)	Lightforce	Faster Than Light
13	(8)	1942	Elite
14	(–)	Sanxion	Thalamus
15	(–)	Strike Force Harrier	Mirrorsoft
16	(14)	ACE	Cascade
17	(–)	Leaderboard	Access/US Gold
15	(7)	Go for Gold	Americana
18	(–)	Computer Hits Vol 3	Beau Jolly
20	(11)	Green Beret	Imagine

All figures compiled by Gallup/Microscope



Finally this week MicroGen has sent us this map of the first level of its latest title *Frost Byte*. Watch this space for more hints and tips on *Frost Byte*.

Position of objects in each room

Arrow indicates where the exit is on each screen

Military disaster

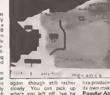
Just when you thought it was safe to go back to the beachhead, CCS plots its battle-orders and tries to massacre the whole genre. A double tragedy because it's not yet another Napoleonic romp, but some World War One action in the region of the Dardanelles.

WW1 contains some interesting options, such as digging trenches and even tunnelling to within inches of the enemy fortifications then blowing them up. And, of course the Gallipoli campaign offers its own special challenge — try to do better than the allied generals, who gained little at the cost of many men.

Initial impressions of the game are good. The comprehensive rules suggest that this is going to be a carefully thought out simulation, with a good number of options. 128 owners even get their own version with optional battle sounds and an arcade sequence to assess battle modifiers. There's a big scrolling map which is easy to read and cursor control.

Then you start to play. Even if you can put up with the somewhat erratic movement of the cursor, the apparently endless nature of the Turkish advance phase could make you think that their troops are crawling towards you. And then — the program crashes. For you the war is over!

Actually, it need not be all that final because typing in *Run* has your troops marching again though still rather slowly. You can pick up where you left off but be warned — there's more suspense waiting for the next crash than in trying to draw up a successful strategy.



Gallipoli was a military disaster. By dragging us back into the age of the well-bugged Basic simulation, CCS has produced a disaster all of its own making.

Popular Appeal ♦

Paul Svycarsky

Program *Gallipoli* **Micro** Spectrum 48K/128K **Price** £8.95 **Supplier** CCS, 14 Langton Way, London SE3 7TL

Rockin' and rollin' down the trail

Trailblazer comes from the same programming stable as *Bounder*, and has lots of similarities while being much faster and more exciting. Forget about the plot (which is pretty meaningless, anyway) – what you have is a cosmic roadway receding into the distance, upon which sits an Amiga-like "bouncing ball". The game can be played either one player against the clock, two players against each other, or one player against a computer controlled opponent.



Like Activision's *Ballblazer* the action is seen from two points of view with two versions of the playing screen presented, one in each half of the screen. The challenge is to control your sphere as it hurtles along the cosmic causeway avoiding black holes in the path (which cause you to take a tumble and a time penalty), using the blue squares to trampoline over gaps, the green squares to increase your speed, and the white squares to zoom into overdrive.

Red squares slow you down and purple ones stop you dead, while in the later levels we are promised even more horrors, including the dreaded Cyan Zone in which all your joystick controls are reversed.

With a little pattern-matching exercise built in after every few levels, top class sound effects and effortlessly smooth scrolling, Trailblazer is maddeningly addictive – pardon the cliché – and proves once again that the simplest ideas are often the most successful. A biggie for sure.

Popular Appeal ♦ ♦ ♦ ♦

Chris Jenkins

Program *Trailblazer* **Micra** CBM 64 **Price** £9.95 Supplier Gremlin Graphics, 10 Carver Street, Sheffield S1 4FS

Solving the puzzles of freedom

It's Manic Miner time again as Clement Droid, *The Last of the Free*, jumps about, runs and dodges nasty droids, collects objects and solves problems and makes for the exit so he can warn humanity that *his* enemies are about to be *our* enemies. I'd advise old Clem to keep its eyes shut as well so he doesn't have to look at the game's bland graphics.

So much for the plot. The large sprites mentioned on the inlay turn out to be medium sized and are well enough animated, as is Clement the droid. The backgrounds, containing pipes and various indistinguishable blocks are something else, though. They are in fact pathetic.

What separates *Last of the Free* from any other platform game is the puzzles which range from simple to complex and are spread over 55 different screens. Doors can be opened by having the key and pressing "" (to use object) whilst other problems require the dropping of objects on or near to the obstacles.

Popular Appeal ♦ ♦

Duncan Evans

Program *Last of the Free* **Micro** BBC/Electron **Price** £7.95 **Supplier** Audiogenic Software Ltd, PO Box 88, Reading, Berkshire

Darling Red Max

Billed as a sequel to *The Last V8* and by the same author, David Darling *Red Max* has you rudely awakened from cryogenic hibernation below the surface of the moon, and hurtling off on a motorbike – built using the last V8's engine – to shut down reactors and rescue your fellow hibernaters before the galaxy blows itself to bits. Or something like that.

The moon has apparently been invaded by renegade deathlords who have laid 27 mines, encircled the city with a laser fence, and various other unspeakable acts.

Transferred to actual gameplay, this means piloting your character on the motorbike, riding over mines to defuse them, disabling laser fences by riding over numbered switches before careering through them and not crashing into other electric fences. This goes on over three levels.

The graphics are attractive, showing a aerial view of your course through the mined wilderness, although, as with all aerial views, some graphic representation of your character is lost. As for riding the bike itself, it's not too difficult, even if the brakes seem a bit dodgy.

As we've come to expect from the Darling stable, some great music has been commissioned from David Whittaker to complement the game. It's very Hubbardesque, which is not surprising as the two are apparently friends, and it's well worth listening to in its own right.

There are plenty of companies punting out inferior products to this at full price – at £1.99 it's a giveaway.

Popular Appeal ♦ ♦ ♦ ♦

Christina Erskine

Program *Red Max* **Micro** Commodore 64 **Price** £1.99 **Supplier** Code Masters, 1 Beaumont Business Centre, Beaumont Close, Banbury, Oxon OX16 7RT

Be Sir Galaheart

As Sir Galaheart, it's your business to wander the highways, byways and motorways of this cursed country in search of the sacred firestone. To get that you'll need the enchanted crystals and to get them you'll need a lot of mapping, some dodging, a spot of shooting and the odd bit of bartering. It's almost as involved as real life.

Being a Firelord gives you a good pedigree though. You can trace your family tree right back through Odin's *Robin of the Wood*.

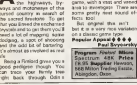
It's also a great looking game, with a vast and varied area to investigate. There are some pretty neat sound effects too!

But original this isn't, but it is a very nice variation on a classic game type.

Popular Appeal ♦ ♦ ♦ ♦

Paul Svyversky

Program *Firelord* **Micro** Spectrum 48K **Price** £8.95 **Supplier** Hewson, 56B Milton Trading Estate, Abingdon, Oxon





Randomly generated killer sheep

Sepulcri is a state of the art game. In play it may be highly derivative, with more than a smack of *Knight Lore*, *Alien 8* and *Batman*, but it is at least a near-perfect synthesis of randomly-generated title and randomly-generated plot.

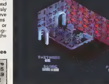
The plot, such as it is, is described in the inlay as an "implausible storyline" – you can say that again. The first Strategic Defence Initiative satellite is finally ready in the year 2075, but it's got a few bugs. You therefore have to control a miniaturised robot moving through the satellite's circuitry, flipping dip switches and avoiding killer sheep.

As in *Batman*, jumping is crucial – a fraction out and you're dead, but it's curiously compelling, as you move slowly through the problems, solving them every third or fourth time. If it was an original it would be well worth the money.

Popular Appeal ♦ ♦ ♦

John Lettice

Program *Sepulcri* **Micro** Amstrad CPC **Price** £8.95 **Supplier** Anolasoft, 69 Long Acre, London WC2



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Green Beret	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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SINCLAIR SPECTRUM



With the release of the latest version, the Amstrad/Sinclair Spectrum Plus 2 this micro looks set to compete for a long time yet.

In this supplement we'll see just why the Spectrum has lasted as well as it has. Apart from the massive games support, with continuous improvements in quality shown by programs like **Uridium** and **Starglider** there is a huge selection of utility and hardware products buy

The **Red Box** and **RamPrint** interfaces go a long way to solving the perennial problems of controlling printers and household appliances while the **Artist 2** package from Softechnics shows that even the best Spectrum products can be improved to an amazing degree.

Despite the competition it looks as if the Spectrum will be holding its own while you still support it ◀

Learn to box clever

PATRICIA SAVAGE ON THE MOST INTELLIGENT SOLUTION TO THE HOME AUTOMATION PROBLEM

When home computers first became affordable, it didn't seem so important to justify your reason for buying one. It was enough that they were new and exciting. Later on, when the novelty had worn off, many justifications arose: word processing, accounts, games, whatever. One of the most commonly heard reasons for buying a computer was the ability it offered to control household devices, hence the rash of unfunny cartoons about micros putting the carpet out and sweeping the cat. The fact remains though that the complexity of interface devices and the soldering skill needed to make such add-ons work, meant that most people's plans to computerise their houses came to nothing.

Now it looks as if the idea is back with a bang, in a new form which offers easy, efficient control of domestic appliances without the need for either a degree in electronics or the ability to solder a joint.

The Red Box system works because it is an *intelligent* system. Rather than just acting as simple on off switches requiring complex connections to your computer, the Red Box devices have their own built in microprocessors which can be programmed to perform complex tasks by your compter then left to get on with it.

Another revolutionary aspect of the Red Boxes is that they communicate with each other using the domestic mains lines. No more spaghetti wiring.

Like the versions for other home micros, the Spectrum Red Box system consists of three units, Red Leader, which runs the Basic program and controls the other units, Red One, a computer controlled mains socket with a maximum load of 13 amps, and Red Two, an infra red sensor best used for security applications. Appropriate connection leads for your computer are also enclosed. Since Red Leader is a 6502-based device with 16K ROM and 8K RAM, it is in effect a computer itself.

The programming language, Red Basic is identical for all micros. Your micro is used simply to issue commands to Red Leader, which passes them on to the slave unit.

To install the units Red Leader should be wall mounted and left permanently plugged in to the mains – power consumption is negligible. Loading the control program into the Spectrum and ▶

```
Red Control                      21:36:51
[illegible]
1 PORCH    ON   2030  0130        1  R
2 HALL     ON                     1
3 LAMP     ON                     1   2
4 DOOR     OFF                    1
5          OFF                    1   4

Enter Command:

(U)p        (D)own        (S)et
(N)ew       (E)rase       (R)epeat
(C)lock     (T)ime        (A)ux
(K)eep      (O)n time     (F)offtime
(L)oad      (G)o          (Q)uit
```

You already have a home automation network. Plug in for £129.

If you own a BBC Micro, Commodore 64 or Spectrum 48k/128k, you could have a totally automated home at your command!

It's time your computer grew up and realised its full potential as something more than a data base, a word processor or an expensive toy for your kids. From now on, your home computer can do a lot more than play games.

The Red Boxes control system lets your computer work to keep defending your home against intruders, acting as a round the clock security system, giving you control over any electrical appliance whether you are in or out.

The Red Box starter system takes you right into the exciting world of home automation from as little as £129.

Just plug in for a more efficient home

Simple to operate, it plugs straight into your home's ring main and needs no other wiring. You don't need any programming experience to operate it.

The system can control internal and external lighting, on/off switches and dimmers in different rooms in different sequences. It can activate washing machines, tumble driers, dishwashers, hi-fi, television, heaters – in fact everything operating through your mains via a 13 amp plug.

Prevent daylight robberies.

Most burglaries happen during the day so the Red Boxes control system works just as hard then as it does at night.

If an intruder enters your home, the Red Boxes control system will see him off sharply.

As soon as its sensor is disturbed, the alarm will raise the roof.

However, more importantly, the system can also deter people entering your home by creating an appearance of constant activity.

Turn your home computer into a command terminal

The Red Box starter system comprises three red boxes.

RED LEADER is a complete 6502 based microcomputer with 16 kbytes ROM, 8 kbytes RAM, peripheral controller with 2400 baud mains modem and host computer link, with an integrated power supply. Its powerful micro processors turn your micro-computer into a command terminal. This is the heart of the system – it's even sophisticated enough to recognise which type of computer you own!

RED ONE is a micro processor controlled 13 amp mains outlet working under the supervision of Red Leader. With Red One at a socket you have power over domestic appliances and lights connected to that outlet.

RED TWO is a complete micro processor controlled movement detector which feeds back data to Red Leader via mains borne signals – raising the alarm on intruders as soon as they enter its heat seeking zone.

Unique tamper proof security

Our Red Boxes operate a secure communications protocol incorporating tamper proof PIN codes. All slaves – outlets, sensors, switches – are first introduced to Red Leader using their own secret 24 bit address. Secret keys are assigned to every device – lights, TV etc – known ONLY to you, and messages between devices are also encoded using random numbers to further secure the system.

No one but Red Leader knows your slave codes, therefore no unauthorised person can interfere with the operation of your system.

Computer to computer communication.

Communication is a vital aspect of our Red Boxes system. Controllers are not isolated from one another – they are connected with each other through the mains home system and can communicate with each other and with Red Leader. If Red Two sends a message to Red Leader indicating an intruder, Red Leader responds by telling a switch unit to activate the alarm.

If you operate two home computers, they can communicate with each other through the system, enabling you to set them more complex tasks. And because Red Boxes have integral micro computers, this leaves your home micro free for normal use outside Red Boxes programming.

The possibilities are endless.

Our Red Boxes are ready for them. With humidity detectors, sensors or additional switches, this system can be used for weather monitoring, aerial rotation, home brewing, greenhouse thermostat control, keyless access via electronic door locks, remote access control via a telephone modem – even a robotic arm for performing simple mechanical tasks like tea making and shoe polishing. One day we might even invent one to iron shirts, why not. Our Project Manual at £9.95 describes a whole series of exciting applications.

Trial run.

For a FREE 14 day trial of the Red Boxes control system WITHOUT OBLIGATION complete the coupon and post to: Electronic Fulfilment Services Ltd, Chesterton Mill, Frenchs Road, Cambridge CB4 3NP.

Your Red Boxes control system will be delivered within 28 days and if you are not delighted for any reason just return it to us for a full refund.

The Red Box starter system costs £129.

And additional Red One and Red Two Boxes are £34.95 each.

JUST PLUG IN AND SEE WHAT YOUR HOME COMPUTER IS MADE OF.

To: Electronic Fulfilment Services Ltd, Chesterton Mill, Frenchs Road, Cambridge CB4 3NP

Please send me the Red Box starter system at £133 (inc £4 p.&p.)

My microcomputer is a BBC Micro/Commodore 64/Spectrum 48k/Spectrum 128k (Delete as applicable)

Also include ______ Project Manuals at £9.95.

______ additional Red One control boxes at £36.95 each (inc £2 p.&p.)

______ additional Red Two infra red sensor boxes at £36.95 each (inc £2 p.&p.)

I enclose a cheque for a total of £______ made payable to General Information Systems Ltd Readers Account

Signature ______

Name ______

Address ______

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RED BOXES

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switching on Red Leader brings up the control screen, which features fifteen available commands and a status line

After entering the codes which are unique to each system (making the Red Boxes ideal for security or alarm applications), you can enter N to start a New program, then define the slave units which are to be used For instance, if Red One is to be used to control a lamp, you should enter LAMP 1, then the ID number for the control unit.

Once you have installed all the slave units you can test them manually using their built in on-off switches, then go on to program the system As you program each device its name is highlighted on the control screen, which displays a real-time clock reading which should be reset each time you program the system Up to ten devices can be controlled, by setting the device status (on/off), on time, off time duration, device type, repeat set (for going through the same timing routine each day), and so on All this is about as simple as programming a video recorder, if you can cope with that, you can cope with Red Box

To expand the possibilities of the system, any device can be controlled by an auxiliary device, so if the auxiliary is on, the device it controls goes on For instance an infra red sensor could be used to detect someone entering a room, then switch a light on using a mains socket unit Using the auxiliary function disables the normal timer functions, though

All your program settings can be saved to tape and reloaded at a later date, and once the program is installed your Spectrum can be disconnected and the Red units left to look after themselves

If you want to use more powerful applications than those allowed by the control program, the Red Basic language offers a number of logic testing, graphic display and conditional commands which allow you to write your own routines

The fifty page manual supplied with the system only goes so far in suggesting possible applications for the Red Box units With further devices (such as humidity detectors motors and robotic arms) in the pipeline, it should soon be possible to put together systems which could operate burglar alarms based on infra red or pressure sensitive sensors, design "geriatric surveillance systems" which could sound alarms for the elderly in case of illness or collapse and even at the simplest levels use the Red Boxes to deter burglars by setting up patterns of lighting and activity from other household appliances which would make your empty house appear occupied The £9 95 Project Manual will give you some more ideas.

The Red Box system is easy to use, relatively inexpensive, and should bring new appeal to the area of domestic control using your home micro ◀

Product: Red Box system
Micro. Spectrum, BBC B, CBM 64
Price: Basic system (Red Leader, Red One, Red Two) £129, additional Red One or Red Two units £34 95 each
Supplier: Electronic Fulfilment Services Chesterton Mill, French's Road, Cambridge CB4 3NP

RED LEADER
HOME MICRO — SERIAL INT TAPE RS423 — HOST COMMUNICATIONS INTERFACE — CPU ROM & RAM — MAINS MODEM
RED ONE
LAMP HEATER TV SET etc — MAINS RELAY 13A SKT — SINGLE CHIP CONTROLLER — MAINS MODEM
RED TWO
HEAT BEAM — IR DETECTOR — SINGLE CHIP CONTROLLER — MAINS MODEM
HOUSE RING MAIN 13A SKT

Just picture this

JOHN DIAMOND ON THE NOVEL FEATURES TO BE FOUND IN THE UPDATED ARTIST 2 GRAPHICS PACKAGE

Improving on an already excellent product is a challenge which few software houses would want to accept. In the case of **The Artist**, it's even difficult to think *how* the product could be improved

In fact, not only has the original program been substantially updated, but The Artist 2 includes some new facilities which take it into the realms of a completely different product.

Like Rainbird's **Art Studio**, The Artist is a window/icon/menu driven program Missing from the original program was the ability to drive the software with a mouse This has now been rectified, you can use either an AMX or Kempston mouse, with suitable interface, as well as joystick or keyboard to control Artist 2

Many of the original features are retained. The icons for selecting the current drawing shape - lines rays circles, ellipses, and so on - are shown at the bottom of the screen, while pull-down menus at the top access all the more advanced functions Also retained is the zoom facility for close-up work but now it's possible to display both the original and the magnified portions of the picture in a split-screen and scroll around both simultaneously, a huge advantage for detailed work.



The other main additions to the program come in the "cut and paste" areas, which now contain facilities I have not seen on any other home micro (if you know different, keep it to yourself!) The most impressive is the ability to cut out areas of any required shape - not just the usual rectangles - and transfer them to another part of the screen You can also invert, reflect or rotate the cut shape

When positioning the cut shape you can choose to either merge it with the existing picture replace the existing picture, or perform a sort of mix by which duplicated pixels are inverted

Another useful function is rescaling, which, although it only works in black and white allows you to define a window and reproduce the contents larger or smaller elsewhere on the screen You can also load an outside picture file into a window in your existing picture, UNDO any function even an UNDO - remove a FILL, and lots more

Just to make things even more impressive, the Artist 2 package does not limit you to the five font styles loaded with the main program There's also a font editor which allows you to create whole new character sets, or just to slightly edit the existing ones

The best new feature is the sprite generator Loaded separately from cassette, this conventional sounding utility has some astonishing implications It's possible to draw up to nineteen sprites of any size up to 6×6 character squares, automatically generate outlines to produce sprite masks which can be used in sophisticated animation programs, and run through sequences of sprites to check animation routines Although this isn't a full sprite animation package - Artist 2 is, after all, meant to be a drawing program - the sprite editor facility is powerful enough to have been used to create the animations for The Edge's Fairlight 2

The last Artist 2 facility is a form of simple "pagemaker" which allows text files to be loaded into your graphics screens Together with the advanced compression techniques, which allow you to load 15-16 Artist 2 screens into your Spectrum, the make up system (designed specifically to be used with The Writer program) offers some facilities which cannot be found on any other Spectrum graphics program.

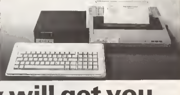
There's a 128K version on the way, probably available at the same time as the 48K package Artist 2 is simple enough for the beginner to use, but, especially with the enhancement of a mouse and microdrive or disc drive, becomes the most professional graphics program available for the Spectrum today ◀

Program: Artist 2
Micro: Spectrum 48K/128K
Price. £14 95/£17 95
Supplier: Softechnics, 36-36 Southampton Street, London WC2, 01-831 1801

Upgrading the Spectrum to a full business system is not a task for the faint hearted. The keyboard has to go, the tape/microdrive has to be replaced with a decent disc drive, and the additional cost of a quality printer has to be considered. An advanced operating system would also seem to be an early priority.

Saga's solution may be inelegant, but it works. Rather than produce the 'Z80-based Spectrum compatible computer' which was rumoured earlier in the year, the Saga Compliment uses tried and tested units bundled at a bargain price.

What do you get for your £299 + VAT?



Flattery will get you . . .

RICHARD BENSON ON SAGA'S COMPLIMENT UPGRADE SYSTEM FOR THE SPECTRUM

Basically, a printer, disc drive and keyboard, all of which can be bought separately, but which would cost you a good deal more than £344.95.

Since the Compliment system is mainly intended to allow the Spectrum to compete with the Amstrad 8000 series as a word processing station, the keyboard is pretty important. This is the established Saga 2+, a 71-key device with a full sized space bar, numeric keypad, extra function keys and a programming keyword template above the keys. Normal price is £54.95. As with most of the other Saga keyboards, the Spectrum's PCB is removed from its case and rehoused in the Saga 2+, which can be used with any existing Spectrum peripherals.

The disc drive provided with the Compliment system is the 256K Opus Discovery 1, a 3½ inch unit which has met with considerable success in the past, and could well be argued to be the 'standard' Spectrum drive. The Discovery includes a parallel printer interface, a Kempston standard joystick interface, a monitor port and a peripheral through connector, so using it doesn't limit your options elsewhere. The Spectrum is attached to the Discovery's peripheral connector, and screwed into place. The Discovery supplies power for the computer, so you can put your Sinclair power supply to one side.

The printer supplied with the system is the Polo Mk II, new to this country. It's an Epson FX-80 compatible device offering 150 character per second printing in normal code, or around 30 cps in near letter quality mode. The printer works in Pica, Elite, Condensed and Emphasised typefaces, and has the minimum of controls, power/paper/online LEDs, and form feed/line feed/line select switches. At the rear are the power socket, on/off switch and Centronics connector. The Polo Mk II used a cartridge ribbon and can use tractor feed or cut sheet paper.

Having set up the keyboard, disc drive and printer (all the necessary cables are supplied) your next task is to boot the disc and investigate the supplied software.

Three established programs are supplied with the Compliment system. They are **Last Word**, Myrmidon's sophisticated word processor, Campbell's **Masterfile** and Microsphere's **Omnicalc**, respectively a database and spreadsheet. Included with the disc are several tutorial programs and utility files to help you to make the most of these packages.

The Last Word features a three-line information header and twenty free lines for entering text. The screen page can be set to a width of twenty, forty or eighty characters, while the actual printing width can be up to eighty characters.

The Last Word includes all the features you would expect from a professional quality word processor; full cursor control of character position, insert/delete and overwrite, centralise text, justify/unjustify, block repeat, search and replace, tabulation, headers, footers, page numbers, command summary, word count, calculator, and full file save/load/catalogue/erase/disc format.

The Masterfile and Omnicalc programs are specially extended for use with the Compliment system. Called from the main disc menu, Masterfile now has the obvious disc catalogue function, the facility to transfer files to The Last Word, and an option to return to Basic. Omnicalc has an extra command 'Z' which makes available a range of disc commands to load and save both 'models' and work areas, and also to catalogue the disc, send direct commands to the printer, and produce screen-dumps.

The Compliment system disc also contains a key define routine which allows you to tailor the character set and the relevant ASCII codes to suit your needs, for instance, if you need to use $ signs instead of £ signs.

The last utility provided with Compliment is **Trans Express**, a tape-disc transfer utility.

The Saga 'operating system' is a very simple menu selection routine, which produces a screen display from which you move to whichever main program you wish to use. It can be tailored to your own requirements with a few lines of Basic.

Short of producing a whole new operating system with icons, pull down menus and a mouse, the Saga solution to upgrading the Spectrum seems to be the best one. Though offering little which has not been available before, Compliment is an excellent choice for the existing Spectrum owner who wishes to upgrade his micro to professional quality rather than ditch it and go for something like an Amstrad PCW 8256. The Compliment should sell well, and proves that the Spectrum's limited memory and facilities needn't bar it from serious use in the business market ◀

Product Saga Compliment
Micro Spectrum 48/128
Price £344.95 inc VAT
Supplier Saga Systems, 2 Eve Road, Woking, Surrey GU21 4JT Tel 04862 22977



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SPARKLE RATING★★★★
SPECTRUM 48k
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C-64
Fast and furious with more than a dash of magic. This search for the holy scriptures involves battles with venomous creatures which you have to fend off with lightning bolts.
SPARKLE RATING★★★★★
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SPECTRUM 48k
Defend the castle against the hordes. As Eric the Brave you have to fight off waves of murderous Orcs, outwit and slay the evil Sorcerer and defeat the gigantic Demon Trolls. Six play levels.
SOON ON C-64 AND ATARI
SPARKLING RATING★★★★
THE LATEST FROM SPARKLERS ALSO INCLUDES
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TANK COMMANDER
COMPUTER WAR
AVAILABLE FROM ALL GOOD SOFTWARE STORES

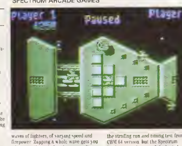
Games explosion!

ASHLEY "BUZZ" SCHWARTKOPF ON THE TRIUMPHS AND TRAGEDIES IN THE LATEST CROP OF SPECTRUM ARCADE GAMES

URIDIUM

URIDIUM was an enormous hit on the Commodore 64, reaching number one position by combining revolutionary bas relief metallic graphics, flicker free multi-sprite animation and fast zapping action. The Spectrum version, which could so easily have been a mere parody of the original game, in fact retains many of its best features and emerges as a strong contender for a Christmas number one.

Uridium is a sideways scrolling shoot 'em taking place over a series of alien dreadnoughts. You pilot a Manta fighter, viewed from above as it moves over the alien cruisers. The detailed surface of the cruiser includes installations which can be zapped for extra points, while the flashing defence ports give forth homing mines which cannot be shot, only dodged. Your fighter weaves and spins convincingly, followed by a realistic shadow, through 180 degree turns which help you to shake off persistent mines. Also after you are



waves of fighters, of varying speed and firepower. Zapping a whole wave gets you a bonus at the end of each screen, after you have made the difficult landing.

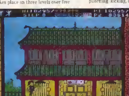
Missing from the Spectrum version are the strafing run and timing test from the CBM 64 version, but the Spectrum Uridium remains one of the best shoot 'em ups ever for the Sinclair machine, and a sure fire hit ◀

SHAO-LIN'S ROAD

SHAO LIN'S ROAD is the follow up to Konami's Yie-Ar Kung Fu arcade game, and The Edge's conversion looks as close to the original as it's possible to get.

Like Yie Ar Kung Fu, Shao Lin's Road is a simplified martial arts game in which your hero has only two basic moves, a mid kick and a flying kick. The action takes place on three levels over five background screens, and each background screen has a sideways scroll which has allowed the programmers to cram in the same amount of action as is found in the arcade original.

The five backgrounds are based faithfully on the arcade version, and designed using The Edge's Artist utility package. Animation on the computer version looks fast and smooth, and your hero must cut down the same selection of punching, kicking, chopping opponents. On each level there is a secret weapon.



Leaping from level to level, avoiding the pitfalls and combating progressively harder opponents, Shao Lin's Road looks like one of the more exciting of the latest batch of arcade conversions ◀



STARGLIDER

STARGLIDER first saw the light on the

INFILTRATOR

INFILTRATOR – "the game that rocked America" – is US Gold's most promising offering for the Christmas market. You take the role of Johnny "Jimbo Baby" McGibbits (uh?) in a mission to save the world from the Mad Leader.

Infiltrator is a complex game taking place in three main stages. The first is a helicopter flight simulator, involving the usual out of cockpit view, a large selection of steering, weaponry and communications controls, and realistic combat routines.

The second section finds you on the ground, attempting to penetrate the secret base. You have grenades, explosives, photographic film and gas spray to help you complete your mission, and objects found during your search can be obtained and displayed on an inventory screen.

Enemy guards can challenge you to produce identity papers or code words, and failing to comply results in an alarm being sounded. Assuming everything goes according to plan, and you don't run out of mission time, the last phase of the game takes place inside the headquarters where you must penetrate the security enclosure to win the game.

Infiltrator is very complex and looks good, but the lengthy instructions are written in an appallingly unfunny style. Just rely on the quick reference card for instructions and get into it ◀

180

180 doesn't sound promising, it's a darts simulation on Mastertronic's £2.99 MAD label. Prepare yourself for a shock, it's very good. Featuring eight opponents of increasingly greater skill, digitised speech and one or two player options, 180 has two main displays. One shows the dart board itself, with a large wavering hand which you must get under control with joystick or keyboard before launching your dart; the other shows your computerised opponent having his go.

Scores appear chalked up on a blackboard beside the dart board, and all the usual rules apply: start from 501 and finish on a double. While your opponent takes his go, watch out for the ructions taking place in the background, and for that professional touch learn the finishing table included in the inserts which gives you the preferred combinations of shots to get the best from your last three darts.

Good fun at a bargain price from Mastertronic ◀

powerful 68000-based Atari 520 ST, and converting it to the Spectrum was a great challenge which has been well met.

Your cockpit view presents you with a range of controls and displays for your fighter, as you battle to destroy the aliens who have over-run Earth.

The actual battle display is a marvel of animated wire frame graphics, as lumbering walkers, speedy tanks, evasive flyers and powerful ground emplacements conspire to blast you from the sky. To make up for the slight loss of speed compared with the Atari ST version, the Spectrum Starglider involves a much greater element of strategy.

Your task is to destroy the Starglider itself, but since this requires more missiles than you can carry in one run, you must battle your way through the warzone several times.

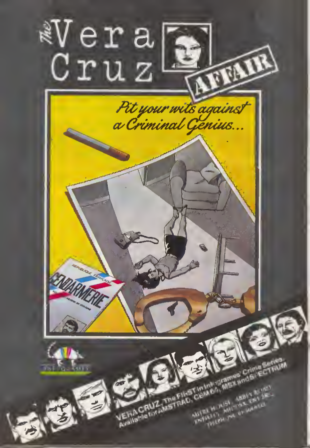
Other features include a wire guided missile display and, on the forthcoming 128K version, improved sound effects and music. Definitely a contender for the title of most sophisticated game program to appear on the Spectrum.

The screen shots shown here are from a pre-production version, and the colours and parts of the screen display may be altered in the final game, which is being produced by Realtime Software for Rainbird ◀

THANATOS

HISTORICALLY the dragon has always played the role of the villain in computer games. It's probably something to do with The Hobbit, which gave them a bad name, and games like Dragon's Lair which have perpetuated sizeist, anti reptilian stereotypes. Now Thanatos from Durell reverses the trend by making the dragon

continued on page 35 ▶



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◀ continued from page 33

the hero and giving him the chance to squash all those troublesome do gooders and whingeing peasants who normally make life so difficult Moreover Thanatos is a technical triumph which features some of the best handling of extra large sprites yet seen on the Spectrum

There are three main phases to the game In the first you must rescue a sorceress from a castle then take her across an ocean in search of her spell book, then finally, take her to her home castle Each phase features lots of strength sapping challenges spear throwing peasants, falling stalactites, poisonous threads and so on In your defence you can project shrivelling flames or land to pick up boulders to use as weapons, scoring double points for dropping them on sundry heads

The animation of the dragon is excellent, with huge flapping wings, a bobbing head and a realistic bunny hop when on the ground The backgrounds are decent, though (on the early stages at least) there are large black areas to minimise any possible colour priority problems Displayed at the bottom of the screen are two tell tale hearts to keep an eye on One gives your overall strength, which is obviously sapped by contact with spears, stalactites, threads or sea-monsters, the other gives your venom level To decrease your heart rate you must land and keep still – a tricky prospect when surrounded by armoured knights The turn is great, looking like a Klingon battlecruiser bringing its guns to bear

As a bonus, there's excellent music on the 128K version, and of course keyboard or joystick control options

Great stuff, and politically sound from a dragonist point of view ◀

FAIRLIGHT 2

FAIRLIGHT set new standards for complexity and graphic detail when it first appeared on the Spectrum earlier in the year

Although very much along the Ultimate problem solving/object-moving/sword-waggling lines, it inspired such enthusiasm that it was almost bound to spawn a sequel

Well, here it is, Fairlight 2 Visually, it's almost identical to the original, with the same detailed mono colour screens and complex animated figures against exotic backgrounds

The plot takes up exactly where F1 left off, having escaped from the castle and handed the magic book to the aged wizard A mistake, as it turns out, he turns out to be the wizardly equivalent of Derek Hatton, and to have his own plans involving lots of death and suffering Hence your quest to get the book back

The 48K version of the game loads in two parts, the first involving the rescue of an imprisoned sea captain, the second a journey across the ocean to find the book Each part has around 70 screens Object movement and screen switching is certainly faster than the original (which was pretty fast), and the backgrounds include a deserted city, a jungle, haunted caverns and the ship itself Some of the new sprites – designed with the Artist 2 graphics/sprite design package – are particularly good, and with a 128K version featuring single load and sophisticated music, Fairlight 2 – A Trail of Darkness – promises to be another monster hit. Let's hope that this time the Book of Light has ended up in the right hands, though I suspect that Fairlight 3 is in the works ◀

WAR

WAR was pretty much of a plonker on the Commodore 64 featuring Uridium-lookalike graphics but a poor excuse for a plotline and an unplayable bonus game at the end of each screen So what has been retained for the Spectrum version? You guessed it – all the bad bits

It's a totally different game with a vertically scrolling background featuring tiny, monochrome details, squashed into a window in the centre of the screen The character set on the instruction page is so bizarre as to be unreadable, the object of the game is obscure and seems to involve nothing more than destroying everything which moves (and everything else just to be certain)

I'm told that you get better weapons at higher levels but to be honest my brain melted after the first few minutes To rephrase the slogan – being a hero is easy staying awake is more difficult ◀

Printer problem solver

ANDREW MAYFAIR ON RAM'S INGENIOUS SPECTRUM CENTRONICS INTERFACE WITH BUILT-IN WORD PROCESSING SOFTWARE

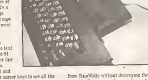
Of the many problems with word processing on the Spectrum, two of the most annoying are the lack of a standard printer port and the necessity of loading software from tape, or the unreliable microdrive. Now both major problems – and several minor ones – are solved by a single device.

The RamPrint interface provides a standard Centronics output from the Spectrum, allowing it to be connected to high quality Epson, Seikosha, Citizen and many other makes of printer. RamPrint comes with the necessary connecting cable already attached, saving one further expense, and, best of all, it also has built-in word processing software, which offers instant access and another cost saving.

RamPrint will work with any Spectrum (a few simple Basic commands need to be typed in to make it function with the 128), and the built in RamWrite software functions with any Spectrum except the 16K model. On plugging in and powering up, the interface takes up no memory space and can be used simply to produce listings using the standard Basic commands. At some stage, however, you will want to do more than that, so using simple calls such as LPRINT"©SET" you can call up a series of menus which allow you to alter your printer's controls. Moving a coloured band through the options available in the menu window with the space bar, you can alter the printing width, line feed, and token/character setting. This last determines whether your print-outs contain command words such as THEN, or their numeric equivalents, for instance CHR$(203).

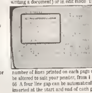
Status

The Printer Set menu also allows you to determine whether the printer works in copy text or screen dump mode. The first will just print out characters, while the second produces a hi-res screen dump. The last option on this menu allows you to select enlarged text. To access the word processor, another simple call is used, bringing up the status line and copyright message. The program operates in two modes, Command and Edit, with twenty one lines available for text manipulation and two for entering commands.



Although RamWrite is nowhere near as powerful as, say, Tasword Three or The Writer, it's a useful package which should cope happily with most of your word processing requirements. There are two text modes, 32 and 64 characters per line. The display is scrolled right and left using the cursor keys to see all the text, not the best way to work, but a limitation which is difficult to overcome on the Spectrum.

A quick stroll through the facilities of RamWrite will give you some idea of what it can do. There are two main editing modes, insert and overwrite, which can be used either in text mode (while you are writing a document) or in edit mode. The



number of lines printed on each page can be altered to suit your printer, from 1 to 66. A four line gap can be automatically inserted at the start and end of each page.

There's a cap lock, margin set, page numbering from 1 to 199, automatic centering, and the very useful string find and global replace. This enables you to locate any usage of a particular word or phrase, then replace it throughout the document with another phrase of your choice.

If your printer supports it, you can also select condensed, double strike, elongated or right justified printing. It's also possible to underline text, and mark and copy blocks of text.

The printer set-up page is accessible from RamWrite without destroying the text. Needless to say, documents can be saved to tape or microdrive (and catalogued from microdrive without destroying the current text), and documents can be merged together.

Most commands are issued using a two-key combination, and are both sensibly chosen and easy to remember.

The eight page manual supplied with the review model was reasonably clear, but lacked the tutorial element which might have been of help to first time users. However, it's clear that the combination of interface/cable/software at such a reasonable price will appeal to the sophisticated user as well as the novice, and of course there's no reason why the interface cannot be used with more powerful word processing software if you need facilities which are not found in the likeable RamWrite program.

As a bonus for games players, RamPrint even includes a Kempston standard joystick interface socket, so from now on you don't even have to unplug your printer to take a break for fun and games. RamPrint is another innovative and economical design from the increasingly imaginative Ram Electronics, and deserves to be a big hit ◀

Product: RamPrint Centronics Interface
Micro: Any Spectrum
Price: £34.95
Supplier: Ram Electronics, Unit 16, Redfields Park, Redfields Lane, Church Crookham, Aldershot, Hants GU13 0RE

Spreadsheet

D Lester

Spreadsheet for the BBC/Electron micros features 720 cells for formula/values, auto update option shorthand formula routines, relative copying of formula to other rows or columns display facility, Epson printout and auto add option for new values

Once run a menu appears offering various options For the first time user '1' must be selected The following keys can now be used to enter data titles and formula

Movement is via cursor keys or 'Z' & 'X' and ' ' & '/' keys Row labelling must be done before inputting any values as movement is restricted by those with a title row

The space bar makes the program expect an input of an appropriate variety

'C' enters the column title margin

'R' enters the row margin (as columns) Pressing 'L' will fill the row with straight lines (for arranging columns etc)

The rest of the instructions will be given with the final part of the listing next week

```
L.
  10REM******* SPREADSHEET ********
  20REM*       Version 0.4           *
  30REM*       by D.Lester           *
  40REM*       Summer 1986           *
  50REM*******************************
  60*FX15
  70*KEY10G. M*FX12.2:M'NL.'M
  80MODE6
  90ONERRORPROCmenu
 100VDU23,1,0;0;0;0;
 110VDU23 224,24,28,250.193.193,250,28,
24
 120VDU23,225.255.0,0,0,0,0,0,0
 130VDU23,227,64,96,112,120,124,126.127
.0
 140VDU23,228,2,6,14,30.62,126,254,0
 150VDU23,229,128,0,128,0,128,0.128,0
 160VDU23,230.0,0.0,0,0,0,0,85
 170DIMc$(18,20)
 180DIMc(18,20)
 190FOR1p%=1TO9:OSCLI"KEY"+STR$1p%+CHR$
(1p%+34):NEXT
 200p%=0:c$(0,0)="Spreadsheet":U%=0
 210x%=18:y%=3:k$=CHR$(224):ad=0
 220*FX12,1
 230*FX4.1
 240*FX214,3
 250*FX213,85
 260PROCmenu:END
 270DEF PROCmenu
 280RESTORE400
 290COLOUR129:FX=1:b%=129:CLS:VDU19,1,5
;0;:VDU19,129,133;0;
 300@%=&0090A:i%=1
 310PROCc:VDU28,2.24.37,2:CLS:VDU28,8,2
3,32,4:PROCc:CLS:VDU28,7.22,31.3:CLS:VDU
26
 320PRINTTAB(37,2)CHR$(227)
 330PRINTTAB(2,2)CHR$(228)
 340PRINTTAB(13,4)"MENU OPTIONS"
 350PRINTTAB(13,5)STRING$(12,CHR$(225))
 360FOR1p%=7TO21STEP2
 370READt$
 380PRINTTAB(11,1p%);1p%/2-2.5;STRING$(
4,".");t$
 390NEXT
 400DATAEnter Sheet.Printout,Save Data,
Load Data,Reset Values,Reset Sheet,Resel
ect Page,Auto Update
 410IFU%<0PROCc:PRINTTAB(27,21)" ON ":P
ROCc:ELSE PRINTTAB(27,21)" OFF"
 420t$=GET$
 430IFt$="1"CLS:PROCsf:ENDPROC
 440IFt$="2"PROCp
 450IFt$="3"PROCsave:ENDPROC
 460IFt$="4"PROCload:ENDPROC
 470IFt$="5"PROCc:VDU19,1,1;0;:VDU7:PRI
NTTAB(8 15)" ";k$;" 5,...Are you sure? "
:an$=GET$:IFan$="Y"FORX%=1TO18:FORY%=1TO
20:c(X%,Y%)=0:NEXT:NEXT:PROCmenu
 480IFt$="6"PROCc:VDU19,1,1;0;:VDU7:PRI
NTTAB(8,17)" ";k$;" 6....Are you sure? "
:an$=GET$:IFan$="Y"RUN
 490IFt$="7"PROCc:VDU19,1,3;0;:PRINTTAB
(8,19)" ";k$;" 7....Required page" ":an$
=GET$:PROCc:IFVAL(an$)<10ANDVAL(an$)>0CL
S:p%=VAL(an$)-1:PROCsf:ENDPROC
 500IFt$="8"U%=NOTU%:GOTO410
 510GOTO280:ENDPROC
 520DEF PROCsf
 530VDU19,1,0;0;
 540VDU28,0,23,39.1
 550PROCc:CLS
 560PRINTTAB(3,0);c$(0,0)
 570VDU28,0,24,16,4:PROCc:CLS
 580VDU28,0.24,39,1
 590FOR 1p%=1 TO 20
 600PRINTTAB(1,2+1p%);1p%;STRING$(3-(LO
G(1p%+0.1)),"_")c$(0,1p%)
 610PROCc:PRINTTAB(17,2+1p%)CHR$(229);P
ROCc
 620NEXT
 630PRINTTAB(0,0)CHR$(228)
 640PRINTTAB(39,0)CHR$(227)
 650PROCc
 660PRINTTAB(0,2)STRING$(17,CHR$(230))
 670VDU19,1,2,0;
 680PROCup:ENDPROC
 690DEF PROCup
 700o%=2:IFU%<0PROCc:PRINTTAB(10,1)" ON
 ":PROCc:ELSE PRINTTAB(10,1)" OFF"
 710IFad=0PROCc:PRINTTAB(15,1)"+":PROCc
:ELSE PRINTTAB(15,1)" "
 720ONERRORVDU7:VDU19,1,1;0;:@%=&0090A:
PRINTTAB(3,0)"   Bad Formula.....deletin
g ";CHR$(xc%+64);yc%;SPC(4):FOR 1p%=1 TO
 6000:NEXT:PRINTTAB(3.0)SPC(34):PRINTTAB
(3.0)c$(0,0):c$(xc%,yc%)="":VDU19,1,2;0:
:PROCup
 730@%=&0090A
 740PROCc:PRINTTAB(22,0)"  Updating...
":PROCc:FOR1p%=0TO2:PRINTTAB(17,1p%)CHR$
(229):NEXT
 750PRINTTAB(3,1);"Page-";p%+1;"-"
 760@%=&20202
 770xt%=25
 780limon=p%*2+1:limtw=p%*2+2
 790FORxc%=limon TO limtw
 800xt%=xt%+11
 810PRINTTAB(xt%-14,1);"<";CHR$(64+xc%)
;">":PRINTTAB(xt%-17,2);SPC(9):PROCc:PRI
NTTAB(xt%-17.2);c$(xc%,0)
 820PROCc
 830FORyc%=1TO20
 840IFc(0,yc%)=0GOTO920
 850IFc(xc%,yc%)=0ANDc$(xc%,yc%)=""PRIN
TTAB(xt%-13,yc%+2)"0.00":GOTO920
 860f$=c$(xc%,yc%)
 870IFf$<>""PROCe:GOTO920
 880IFi%<1GOTO920
 890l=INT(LOG(ABS(c(xc%,yc%))))+4
 900IFc(xc%,yc%)<1l=4
 910PRINTTAB(xt%-l-4,yc%+2)c(xc%,yc%)
 920NEXT:NEXT
 930@%=&0090A:VDU7:VDU19,1,0;0;:PRINTT
AB(22,0)SPC(15):i%=0:PROCcs:ENDPROC
 940DEF PROCpic
 950IFp%=8VDU7:PROCcs:ENDPROC
 960p%=p%+1
 970VDU28,19,23,39,2:CLS:VDU28,0.24,39,
1
 980i%=1
 990PROCup
1000ENDPROC
1010DEF PROCpdc
1020IF p%=0VDU7:PROCcs:ENDPROC
1030p%=p%-1
1040VDU28.19,23,39,2:CLS:VDU28,0,24,39,
1
1050i%=1
1060PROCup
1070ENDPROC
1080DEF PROCcs
1090ONERRORPROCmenu
1100PRINTTAB(x%,y%)k$
1110co$=GET$
1120*FX15
1130PRINTTAB(x%,y%);" "
1140IFco$="Z"ORco$=CHR$(136)x%=x%-11
1150IFco$="X"ORco$=CHR$(137)x%=x%+11
1160IF(co$="/"ORco$=CHR$(138))ANDy%<22R
EPEAT:y%=y%+1:UNTILy%=22ORc(0,y%-2)=1:IF
```

Programming: BBC/Electron

```
y%=22ANDc(0,y%-2)=0y%=2:VDU7
 1170IFco$=":"ORco$=CHR$(139)REPEAT:y%=y
%-1:UNTILc(0,y%-2)=1ORy%=2
 1180IFco$="."PROCpic:ENDPROC
 1190IFco$=","PROCpdc:ENDPROC
 1200IFco$="N"PROCnst
 1210IFco$="C"PROCncl
 1220IFco$="R"PROCnr
 1230IFco$=" "PROCino
 1240IFco$="F"PROCfna
 1250IFINSTR("#$%&'()*+",co$)0p%=ASC(co
$)-34:PROCpdc:ENDPROC
 1260IFco$="P"PROCscr
 1270IFco$="U"PROCup
 1280IFco$="Q"ONERRORDFF:PROCmenu:ENDPRO
C
 1290IFco$="S"PROCcopy
 1300IFco$=CHR$(135)PROCcopy
 1310IFco$="T"U%=NOTU%
 1320IFco$="A"ad=NOTad
 1330IFad=0PROCc:PRINTTAB(15,1)"+":PROCc
:ELSE PRINTTAB(15,1)" "
 1340IFU%<0PROCc:PRINTTAB(10,1)" ON ":PR
OCc:ELSE PRINTTAB(10,1)" OFF"
 1350IFx%<18x%=18
 1360IFy%>22y%=22
 1370IFx%>29x%=29
 1380IFy%<3y%=3
 1390PRINTTAB(x%,y%)k$
 1400GOTO1110
 1410ENDPROC
 1420DEF PROCnst
 1430b$=""
 1440REPEAT:PRINTTAB(3,0)SPC(20):PRINTTA
B(3,0)"Name...:";:PRINTb$:z$=GET$:b$=b$+z
$:UNTILz$=CHR$(13)ORLEN(b$)>10ORz$=CHR$(
127)
 1450IFz$=CHR$(127)b$=LEFT$(b$,LEN(b$)-2
):GOTO1440
 1460c$(0,0)=b$:PRINTTAB(3,0);SPC(20):PR
INTTAB(3,0);c$(0,0)
 1470PRINTTAB(17,0)CHR$(229)
 1480ENDPROC
 1490DEF PROCnr
 1500PROCc
 1510A%=&00000
 1520yc%=y%-2
 1530PRINTTAB(0,yc%+2)k$
 1540col$=GET$
 1550IFcol$<>CHR$(138)ANDcol$<>CHR$(139)
ANDINSTR(" /L:",col$)=0PRINTTAB(0,yc%+2)
ANDINSTR(" /L:",col$)=0PRINTTAB(0,yc%+2)
; ":PROCc:ENDPROC
 1560*FX15
 1570PRINTTAB(0,yc%+2);" "
 1580IFcol$=":"ORcol$=CHR$(139)yc%=yc%-1
 1590IFcol$="/"ORcol$=CHR$(138)yc%=yc%+1
 1600IFyc%>20yc%=20
 1610IFyc%<1yc%=1
 1620b$="":z$=""
 1630IFcol$="L"VDU11:PRINTSPC(16):VDU11:
PRINTTAB(0,yc%+2);" ";yc%;SPC(2-INT(LOG(
yc%));STRING$(12,CHR$(225)):c$(0,yc%)=S
TRING$(12,CHR$(225)):c(0,yc%)=0:GOTO1680
 1640IFcol$=" "VDU11:PRINTSPC(16):PROCc:
PRINTTAB(1,yc%+2)"?":PROCc:REPEAT:PRINTT
AB(2,yc%+2)b$:z$=GET$:b$=b$+z$:UNTILz$=C
HR$(13)ORLEN(b$)>11ORz$=CHR$(127):c$(0,y
c%)=b$:PRINTTAB(0,yc%+2);" ";yc%;STRING$
(2-INT(LOG(yc%)),"_");b$
 1650IFcol$=" "ANDz$=CHR$(127)b$=LEFT$(b
$,LEN(b$)-2):GOTO1640
 1660IFcol$=" "c(0,yc%)=1
 1670IFc$(0,yc%)=""ORc$(0,yc%)=CHR$(13)O
RLEFT$(c$(0,yc%),1)=CHR$(95)c(0,yc%)=0
 1680IF(col$=" "ORcol$="L")ANDyc%<20yc%=
yc%+1
 1690GOTO1530
 1700ENDPROC
 1710DEF PROCncl
 1720x%=21:b$="":z$=""
 1730PRINTTAB(x%,1)k$
 1740row$=GET$
 1750IFrow$<>CHR$(136)ANDrow$<>CHR$(137)
ANDINSTR(" ZX",row$)=0PRINTTAB(x%,1)" ":
x%=18:ENDPROC
 1760PRINTTAB(x%,1);" "
 1770IFrow$="Z"ORrow$=CHR$(136)x%=x%-11
 1780IFrow$="X"ORrow$=CHR$(137)x%=x%+11
 1790IFrow$=" "PRINTTAB(x%-3,2)SPC(10):P
RINTTAB(x%-3,2)"?":PROCc:REPEAT:PRINTTAB
(x%-2,2)b$:z$=GET$:b$=b$+z$:UNTILz$=CHR$
(13)ORLEN(b$)>10ORz$=CHR$(127):c$(((15+(
x%-21))/11)+(p%*2),0)=b$:PROCc:PRINTTAB(
x%-3,2)" "
 1800IF row$=" "ANDz$=CHR$(127)b$=LEFT$(
b$,LEN(b$)-2):GOTO1790
 1810IFrow$=" "x%=x%+11:b$=""
 1820IFx%>33x%=18:ENDPROC
 1830IFx%<21x%=21
 1840*FX15
 1850GOTO1730
 1860ENDPROC
 1870DEF PROCino
 1880a%=(x%-18)/15+(p%*2+1)
```

Programming: Commodore 64

Tape to Disc

A Millett

This program is very useful for copying Basic and machine code programs from cassette to disc as it automatically deals with routines in any memory location. It also shows you where the program starts and ends.

Once run the program asks you how many files you wish to transfer, if you're not sure just enter a large number then you can put your feet up.

If you select only one program to copy you will be given the option to change the filename and save the cassette buffer after loading (useful for interrogating programs!)

Tape to disc will not work with non standard turbo loaders or sequential files so software publishers need not worry

```
100 PRINT"TAPE TO DISK TRANSFER (C) A. JILLETT
110 POKE55,0 POKE56,PEEK(46)+2 CLR
115 INPUT"ENTER NO. TO TRANSFER    1 ";NC NB=NC
116 IFNC=<1THEN120
117 PRINT"SAVE CASSETTE BUFFER ON EACH ONE ? (Y/N)"
118 GETS9$ IFS9$<>"Y"ANDS9$<>"N"THEN118
120 HMEM=PEEK(56)+1
130 GOSUB9000
200 PRINT"INSERT CASSETTE & DISK & HIT SPACE"
210 GETA$ IFA$<>" "THEN210
220 SYS57812"",1
230 POKE780,0 POKE781,0 POKE782,HMEM
235 PRINT"GOTO240"
237 POKE198,1 POKE631,13 END
240 SYS722
250 F$="" FORX=833TO848 F$=F$+CHR$(PEEK(X)) NEXT
252 IFRIGHT$(F$,1)=" "THENF$=LEFT$(F$,LEN(F$)-1) GOTO252
255 PRINT PRINT"LOADED "CHR$(34)F$CHR$(34)
260 A=PEEK(829)+PEEK(830)*256 GOSUB1000 BEG=A
270 PRINTPEEK(828)" "PEEK(829)" "PEEK(830)" "PEEK(831)" "PEEK(832)" $"A$,
280 A=PEEK(831)+PEEK(832)*256 LN=A-BEG GOSUB1000 PRINT"-$"A$
290 A=LN GOSUB1000 PRINT"LENTH"LN" $"A$" BYTES  ST="ST
295 IFST>0THENPRINT"LOAD ERROR!" IFNC>1THENPRINT"TRANSFER ABORTED!" END
297 IFNC>1THENN$=F$ SB$=S9$ GOTO325
300 N$="" INPUT"NEW FILENAME (RET=OLD)",N$ IFN$=""THENN$=F$
310 PRINT"SAVE TAPE BUFFER ? Y/N THEN INSERT DISK.
320 GETSB$
325 IFSB$="N"THEN400
330 IFSB$<>"Y"THEN320
340 PRINT"SAVING"CHR$(34)N$"<"CHR$(34)
345 SYS57812(N$+"<"),8
350 POKE780,2 POKE2,60 POKE3,3 POKE781,251 POKE782,3
360 SYS5704
400 PRINT"SAVING"CHR$(34)N$CHR$(34)
405 SYS(57812)N$,8
410 POKE780,2 POKE2,0 POKE3,HMEM POKE781,LN-INT(LN/256)*256 POKE782,HMEM+LN/256
420 SYS5704
500 PRINT PRINT"FINAL TOUCHES" GOSUB2000
510 IFER=0ANDNB>1THENNB=NB-1 GOTO220
900 PRINT"ALL DONE !!!
990 END
1000 REM A$=HEX$(A)
1010 A$="" A1=A
1020 A$=MID$("0123456789ABCDEF",A1-INT(A1/16)*16+1,1)+A$
1030 A1=INT(A1/16) IFA1THEN1020
1090 RETURN
2000 REM FIND T,S OF FIRST BLOCK N$
2005 ER=0
2010 OPEN1,8,15 OPEN2,8,2,"#"
2020 PRINT#1,"U1 2 0 18 0"
2030 PRINT#1,"B-P 2 0"
2035 GET#2,A$,B$ T=ASC(A$+Z$) S=ASC(B$+Z$)
2040 IFT=0ANDS=255THEN2500
2050 PRINT#1,"U1 2 0"T,S P=2
2055 PRINT#1,"B-P 2"P
2060 GET#2,T$,S$
2070 F$="" FORK=1TO16 GET#2,A$ IFA$<>" "THENF$=F$+A$
2080 NEXT
2090 IFF$=N$THEN2200
2100 P=P+32 IFP>255THEN2030
2110 GOTO2055
2200 PRINT#1,"U1 2 0"ASC(T$+Z$)ASC(S$+Z$)
2210 PRINT#1,"B-P 2 2" GET#2,A$,B$
2220 A=ASC(A$+Z$)+ASC(B$+Z$)*256
2230 IFA<>HMEM*256THEN2500
2240 PRINT#1,"B-P 2 2"
2250 PRINT#2,CHR$(BEG-INT(BEG/256)*256)CHR$(BEG/256)
2260 PRINT#1,"U2 2 0"ASC(T$+Z$)ASC(S$+Z$)
```

Programming: Commodore 64

```
3270 REM DONE!!
2450 CLOSE2 CLOSE1
2490 RETURN
2500 EP=1 FRINT'@@"...'   GOTO2450
9000 RESTORE FORX=704TO...  READA POKEX A NEXT
9100 Z$=CHR$(0)
9400 FORX=224TO255
9410 POKE744 X POKE747  ...-740
9420 NEXT
9430 POKE62828.76 POKE62829,125 POKE62830,245
9440 REM $F56C JMP $F57D
9490 RETURN
10000 DATA72,165,1,41,254,133 1,104,32,216,255,165,1,9,1,133,1,96
10010 DATA72 165,1,41,253,133,1,104,32 216,255,165,1,9 2,133,1,96
10020 DATA162,0 189,0,224,157,0,224,232,208,247,96

READY.
```

Programming: Amstrad CPC

Abbreviations For Keywords

Alastair Scott

With this program you can save a lot of typing time Running it will produce a list of letters to screen or printer with a keyword opposite each one When the Ready prompt appears typing Control plus the letter will result in the keyword being produced

For example *Ctrl – A* produces *Asc(*

This facility remains until the computer is reset or you type *Call &BB00* The only drawback is that you cannot redefine any keys or you will lose the definitions

```
100 'Abbreviated Keywords
110 'by Alastair Scott
120 MODE 1:CALL &BCu2:PAPER 0
130 ZONE 20:CALL &BBu0
140 FOR addr=&BEF0 TO &BEF8
150 READ hx$:POKE addr,VAL("&"+hx$)
160 NEXT:CALL &BEF0
170 PEN 1:LOCATE 4,8:PRINT"Output to screen or printer? (S/P)'
180 op$="":WHILE op$<>'s"AND op$<>"p":op$=LOWER$(INKEY$):WEND
190 SOUND 1.25:s=8*ABS(op$="p")
200 PEN 3:CLS:PRINT#s,"Use CONTROL+letter for abbreviation":PRINT#s
210 FOR keys=128 TO 159
220 READ word$,lower,upper,number
230 KEY DEF number,1,lower,upper,keys
240 KEY keys,word$
250 PEN 2:PRINT#s,USING"   \        \"‚word$;
260 PEN 1:PRINT#s,CHR$(upper),
270 NEXT
280 FOR num=48 TO 57:READ pad:KEY DEF pad,0,num,num,num:NEXT
290 KEY DEF 7,0,46,46,46:KEY DEF 6,0.13,13,13
300 PRINT#s:SOUND 1,50:END
310 DATA01,00,BF,21,FF,00,C3,15,BB
320 DATAASC(,97,65,69,'BORDER ",98,66,54
330 DATACHR$(,99,67,62,"DATA ",100,68,61
340 DATA"ELSE ',101,69,58,"FOR ",102,70,53
350 DATA'GOSUB ".103,71,52,HEX$(,104,72,44
360 DATAINKEY,105,73,35,"READ ".106,74,45
370 DATA'KEY ".107,75,37,"LOCATE ".108,76,36
380 DATA"MOVE ",109,77,38,NEXT.110,78,46
390 DATA"LIST ",111,79,34,"PLOT ",112,80,27
400 DATA"GOTO ',113,81,67,RETURN,114,82,50
410 DATA"SYMBOL ",115,83,60,"THEN ",116,84,51
420 DATA"USING ",117,85,42,"DRAW ".118,86,55
430 DATAWINDOW,119.87,59,LEFT$(,120,88,63
440 DATAMID$(,121,89,43,RIGHT$(,122,90,71
450 DATA"WHILE ",91,123,17,WEND,93,125,19
460 DATARUN,64,124,26,"EDIT ",94,163,24
470 DATARENUM,58,42,79,AUTO,59,43,28
480 DATA15,13,14,5.20,12,4.10,11,3
```

Programming: Spectrum

Spherical objects

Geoffrey Wearmouth

This program for any model Spectrum takes an ordinary screen picture and processes it into a spherical shape This strange design can then be saved to tape, or printed out, and be loaded into most graphics packages, including the Art Studio for manipulation

After running the program a menu appears at the bottom of the screen Pressing *L* will load in the screen you wish to transform Then press *G* to start the process, a radius of 81 is recommended and sit back and wait for the screen to be redrawn It takes around eight minutes on average

Once drawn the screen can be dumped to any printer accepting the *Copy* command on a 48k Spectrum or an Epson compatible on a 128k/Plus 2, or saved for use in art type programs

```
   1 REM ************************
   2 REM *        SPHERE         *
   3 REM *     G  Wearmouth      *
   4 REM *         1986          *
   5 REM * Spectrum 16/48/128K   *
   6 REM ************************
   7 REM
  10 IF PEEK 26618<>201 THEN  CLEAR 2647
5  PRINT "installation"  GO SUB 9000

  20 PRINT #0,AT 1,0, PAPER 4,"Load Save
 Print Border Circle Go"
  30 LET a=CODE INKEY$  IF a>97 THEN  LE
T a=a-32
  40 GO SUB 100+a  GO TO 20
 165 RETURN
 166 PLOT 0,0  DRAW 255,0  DRAW 0,175  D
RAW -255,0  DRAW 0,-175  RETURN
 167 CIRCLE 127 5,87 5,PEEK 26489
 170 RETURN
 171 INPUT "Radius (10-88) ",r  POKE 264
89,r  CLS   PRINT #0,AT 0,10,"radius - "
,r  RANDOMIZE USR 26488
 175 RETURN
 176 INPUT " Title ",t$  PRINT #0," Star
t tape"  LOAD t$SCREEN$  RANDOMIZE USR
26476
 179 RETURN
 180 COPY
 182 RETURN
 183 INPUT " Title ",t$  SAVE t$SCREEN$
 999 RETURN
9000 REM ** Machine Code **
9001 REM
9010 LET a=26476  LET s=0
9020 FOR i=1 TO 18  READ t$
9030 FOR j=1 TO 8
9040 LET b=16*(CODE t$-48-(7 AND t$>="A"
))
9050 LET b=b+(CODE t$(2)-48-(7 AND t$(2)
>="A"))
9060 POKE a,b  LET a=a+1. LET s=s+b
9070 LET t$=t$(3 TO )
9080 NEXT j
9090 NEXT i
9100 IF a<>13660 THEN  PRINT "Data error
"  STOP
9110 CLS . RETURN
9200 DATA "21004011006B0100"
9210 DATA "18EDB0C93E51CD28"
9220 DATA "2DEFA203C5A0C402"
9230 DATA "1B3134372F0F38CD"
9240 DATA "D52DFD77703A085C"
9250 DATA "FE20CAC516EF3131"
9260 DATA "E50522A305A10F34"
9270 DATA "372F040131u4E531"
9280 DATA "04010328C30238CD"
9290 DATA "D52D4847CDAA223E"
9300 DATA "2B84670620C50608"
9310 DATA "C5CB06301AE5BF34"
9320 DATA "377F31E40105A304"
9330 DATA "20E3040338CDA22D"
9340 DATA "FD4670CDF922E1FD"
9350 DATA "346EC110DB2CC110"
9360 DATA "D4EF31360090A103"
9370 DATA "3137008A023BC900"
```


Front End Cataloguing

Gareth Morgan

This program when run catalogues a disc and displays a number next to each entry so that loading programs becomes extremely simple. If you install a Boot file to automatically load Front End then program selection is considerably speeded up.

```
100 MODE 4:PAPER 0:CLS:INK#0,4:INK 4:BORDER#0:2,2
110 OPEN#4:scr_512x216a0x0:BORDER#4:2,2:CLS#4:CLS#0
120 PRINT #0,"Accessing microdrive"
130 n$="mdv1_DIR_temp"
140 OPEN_NEW #5,n$
150 DIR #5,mdv1_
160 CLOSE#5
170 dir prt
180 OPEN_IN#5,n$
210 INPUT#0;"TYPE TITLE NUMBER -- ";tnum
220 IF tnum>count THEN CLS#0:GO TO 210:END IF
230 findt:PRINT #0:"Loading ";a$,"...":PAUSE 10:CLOSE#5:DELETE n$
240 BORDER#4:CLS#4:CLOSE#4
250 LRUN "mdv1_"&a$
260 :
270 DEFine PROCedure dir_prt
280 OPEN_IN#5,n$
290 INPUT #5;a$:a$
300 y=0:x=0:count=1
310 REPeat loop
320 IF y=20 THEN x=x+20:y=0:END IF
330 AT#4;y,x
340 IF EOF(#5) THEN EXIT loop:END IF  :INPUT#5;a$
350 IF a$=="boot" OR a$=="DIR_temp" THEN GO TO 340
360 PRINT#4:count;":";a$:count=count+1
370 y=y+1
380 END REPeat loop
390 CLOSE#5
400 END DEFine
410 :
420 DEFine PROCedure findt
430 f=1:INPUT#5;a$:a$
440 REPeat loop1
450 INPUT #5;a$
460 IF a$=="boot" OR a$=="DIR_temp" THEN GO TO 450
470 f=f+1:IF f-1=tnum THEN EXIT loop1
480 END REPeat loop1
490 END DEFine
```

QL Dump

M C Ogier

This short QL program dumps the screen to an Epson LX-80 printer. Depending on the measure of Epson compatability it should work with any compatible printer

```
100 OPEN #4,ser1: PRINT #4; CHR$(27),
CHR$(51), CHR$(24);
110 FOR g=0 TO 127 STEP 2
120 PRINT #4; CHR$(13); CHR$(10);
CHR$(27),'*', CHR$(0), CHR$(0), CHR$(1);
130 FOR f=163712+g TO 131072+g STEP -
128 PRINT #4, CHR$(PEEK(f));
140 NEXT g: CLOSE #4
```

Unlocker

Alan Griffiths

This program for the BBC micro allows locked cassette files to be loaded into the computer, instead of having to use *Run

It does this by using event number four to poke &FE into location &3CA as the locked program is loading

```
10REM** BY ALAN GRIFFITHS 1986 **
20:
30FOR A=0 TO 2 STEP 2
40P%=&0C00
50[OPT A
60PHP PHA:TXA:PHA:TYA PHA
70LDA &3CA
80AND #&FE
90STA &3CA
100PLA TAY PLA TAX PLA PLP
110RTS
120]NEXT
130?&220=0
140?&221=&0C
150*FX14,4
160CLS
170PRINT'"YOU MAY NOW LOAD YOUR PROGRA
M NORMALLY"'
180END
```

Colour Access

N D Clark

This Atari ST program allows Basic to display any of the 512 colours available something there is no command for

The variables *colno* (0 to 3 in medium res 0 to 15 in low res) red, green and blue should be set before the routine is called. Suitable values for *red*, *green* and *blue* lies between zero and 999

```
30000 SETCOLOUR:POKE INTIN,COLNO
30010 POKE INTIN+2,RED
30020 POKE INTIN+4,GREEN
30030 POKE INTIN+6,BLUE
30040 POKE CONTRL,14
30050 POKE CONTRL+2,0
30060 POKE CONTRL+6,4
30070 VDISYS(1)
30080 RETURN
```

We want your programs

Yes, this is your chance to get rich and famous. Well, famous anyway, as *Popular Computing Weekly* is looking for contributions to the Programming pages.

What sort of thing are we looking for? You name it – anything original from games to utilities, applications and the like, written in Basic, machine code or anything else you can think of.

Programs for any computer will be considered, not just the old faithfuls (Spectrum, Amstrad, QL, Commodore etc) so send your listings in for your favourite micro. What we need is a working copy of the program on tape or disc plus an accompanying article or documentation that you would anticipate going with the piece, normally not over 2000 words.

Alternatively, send in your short programs to the Bytes and Pieces page – what could be easier? In return, we'll pay the princely sum of £25 per page for the main programming pages and £10 for each Bytes & Pieces contribution we publish. Plus the fact that your name will be indelibly carved in the *Popular* Programming Hall of Fame till time immemorial. What more could any true programmer ask?

Just send your masterpieces in to **Duncan Evans, Technical Editor, *Popular Computing Weekly*, 12–13 Little Newport St, London WC2H 7PP** and he'll assess them post haste.



With Kenn Garroch

Spectrum plus or minus?

Vic Jordan of Burnley, Lancs, writes

Q I have read with interest any comments you have printed about the new Spectrum Plus 2

Being an owner of the old type 48, I get more enjoyment from writing my own (very basic) programs.

Your magazine seems to refer to the Plus 2 as more of a games machine and not really suitable for programming in 48 Could you explain the difference between programming in 48 and 128, and if the Plus 2 would be a good buy for someone like me who doesn't play many games?

A The old 48K Spectrum is programmed in Basic using the single keystroke per command system ie, one key for *Run*, one for *Goto* etc The 128 and Plus 2 have the more normal method of typing in each keyword in full plus a number of new commands The Plus 2 also has the advantage that its keyboard is a vast improvement over the Spectrum's Plus (One) and 128, and a mega improvement over the old 48K It also has more memory and is downwardly compatible – ie, software from earlier machines will run on it

Whether it is good for programming or not depends on whether you really like using the Sinclair Basic which is very non standard and in some ways, difficult to use If you are thinking of changing machines, you may be better off buying an Amstrad 464 which although it costs £199 compared with the Plus 2 at £139 comes with a monochrome monitor, reasonable keyboard, and standard upgrades for disc, RS232 etc

The Basic in the Amstrad is much more standard and is quite a lot better than that of the Sinclair, the games available for it are similar to those appearing on the Spectrum, in fact it is a better machine So, if you are splashing out on a new computer, take a look around and see what special offers are on

Computer choices

Simon Vause of Brotherton, West Yorks writes

Q I am thinking of buying a new computer. After viewing the various machines on the market, I have chosen two computers that seem to fit my needs The Atari 520ST and the new BBC Master Compact from Acorn.

I wish to use the computer for programming in different languages, especially Cobol I also wish to use business software and write business graphics and games programs

Could you advise me which computer you think is the best for what I wish to use it for?

A Looking at the two systems, the first thing to take into account is what you get for your money The Master Compact comes with single drive, colour monitor, front end (not Gem but near enough), and bundled software including *View*, *Card Index Logo* and BBC Basic all for about £700

The Atari 520ST has a disc drive colour monitor, Gem and bundled software including 1st Word *DR Personal Basic DR Logo* and *Neochrome* (colour graphics package) for about £850 With both machines, there is a good chance that you'll pay less than this and/or get some more software thrown in especially with the ST But considering what you get for your basic system, the pricing is about the same, the ST is a faster and more flexible machine that the Compact which should be taken into account when comparing the prices

For programming languages, the BBC is still probably the better machine since there is a version of virtually every language under the sun available for it, although most of these are not full implementations However, the ST is catching up fast and with the Macintosh and PC emulators that are becoming available for it, you should be able to get almost any language to run

If you want to write business software it depends on whether you want to use machine code or not, the Compact uses the good old 6502 which is fairly easy to program with but is very old fashioned compared to the 68000 which, although it may look more difficult at first sight, is actually much more flexible and easier to use, once you get the hang of it If you are going to be programming in a high level language then either machine will do but remember that the ST has more Ram space so the programs won't generally need to do as much disk accessing and so will be faster

For graphics, as far as I'm concerned, the ST wins hands down It has more colours in a higher resolution than the Compact and with its extra speed, can manouvre them faster If it's graphics applications you want then the ST is the machine you should buy

If you are going to be writing games, the ST is much more marketable than the Compact simply because there are probably more ST s around than there are Compacts

It is also seen as much more of a games machine with its mega graphics, reasonable sound and general market stance

Overall you would probably be better off with the ST for your needs than the Master Compact You might, however, take a look at the Amstrad IBM PC clone since this probably fits the bill as well but is more businessy than the ST In the end, it's your choice and you should ger the machine you feel happiest with

Saving to disc

Rob Winchester of Peterborough, Cambs, writes

Q I have just acquired a secondhand BBC B micro and am playing around with the excellent graphics features of the machine. One thing that I would like to do is to save whole screens to disc Could you explain how this is done?

A Easy, simply find out *Himem* for the particular mode you are in, subtract this from &8000 and find the Hex result ie,

```
PRINT ~&8000-HIMEM HIMEM
then use *SAVE fnm 7000+400 for mode 7
*SAVE fnm 6000+2000 for mode 6
*SAVE fnm 5800+2800 for modes 5 and 4
*SAVE fnm 4000+4000 for mode 3
*SAVE fnm 3000+5000 for modes 2 1 and 0
```

The *fnm* is the file name you want to use, the first figure is the hex start address (*Himem*) and the figure after the plus is the length of the screen, in hex (&8000 *Himem*)

Is there anything about your computer you don't understand, and which everyone else seems to take for granted? Whatever your problem *Peek* it to Kenn Garroch and every week he will *Poke* back as many answers as he can The address is *Peek & Poke*, PCW, 12-13 Little Newport Street, London WC2R 3LD



The hotline on new books

David Wallin gets literary, and has some recommendations for comms books

If you've been reading this column regularly and feel you'd like to go deeper into any of the topics we discuss, you may like to consider some of the books on communications which are now available.

We'll discuss a number of new books as they come out, but for the moment anyone who wants a detailed guide covering all aspects of getting to grips with comms could hardly do better than buy one of my own personal favourites!

Hotline – a Personal Guide to Computer Communications by Ben Knox. It's by no means new – about a year old and therefore it's getting a little out of date. However, *Hotline* has everything you need to get into communications via the phone lines, in its 141 pages (14 chapters and five appendices).

It begins with a preface from the author, saying that the book assumes some experience of computers (having read the book, I would agree that a little knowledge of computers is needed, but you should have ample of both if you read *Popular Computing Weekly* regularly). Knox also says that you shouldn't worry if you get lost with all the detail and terminology etc used in the book and that it will become clear quite quickly when you start to use on line systems.

Three or four years ago, when I first started communicating, I was totally confused by everything and the jargon to go with it, but regular communicating (and phone bills to match!) soon sorted it all out.

The book kicks off by going into considerable detail on modems – explaining autodial and answer, speeds and duplexes, synchronous and asynchronous transmission, answer and originate modes, frequencies used, approval (and lack of it!) and finally Hayes Compatibility. As you can see, it covers just about all there is to cheapish (under £250) modems.

It does not go on to unattended modes, printer ports (like the Pace Series 4 modems), Tone and Pulse dialling and other complicated, unnecessary and confusing items of modems. However, it does not forget the good old RS232 interface, describing the history of RS232, duplex (again!), parallel and serial, and explaining all the jargon involved and what pins are called what. Incidentally, one of the appendices contains an extremely useful detailed description of the use of each pin.

Then we go on to software: downloading, speeds, word lengths, parities, Ascii, start and stop bits (complete with a diagram!) and protocols. Finally, it has a couple of pages on extra features of software such as macros, explaining what they are and do.

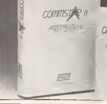
Simply going on-line is explained in a massive three pages (half for viewdata and half for Ascii). Plus there's plenty of no-nonsense stuff about security. Not giving your password away, regularly changing it and all that kind of thing. Useful, but as I said, common sense.

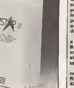
Skip the chapter on bulletin boards: the list was out of date when the book first came out. Some of the boards listed are closed and many more have opened.

Chapters nine and ten are all about PSS – which we've gone into in this column on a number of occasions. Details on how to join and access it (there is a list of PSS port access numbers), on IPSS and (most importantly) how much it all costs. PSS is basically a giant multiplexor network, covering most of the country. Advanced PSS, PAD commands, setting of PAD parameters and what errors can occur are also covered.

In many ways, the last two chapters are the best of all, dealing with Compuserve and The Source – America's two biggest and best known database services. Unfortunately, reading these sections is likely to make you want to join one of the services, and they are very expensive, both to join and use. If you are interested in either the Source or Compuserve then one simple piece of advice is to buy this book – it will give you lots of information about what each offers and should help you to decide which you should join.

All that remains are the five appendices, containing a list of the addresses of English database companies, a very detailed technical description of the RS232 port, a list of Ascii codes and an invaluable glossary of computer abbreviations and jargon and what they really mean in English.





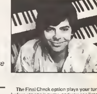
Pace has released *Comstar II*, an upgrade of its BBC communications software package. The new version is £33.80, the same price as the old package, and includes new features such as pull down menus, off line editing and improved telesoftware downloading.

The package, which comes as a 16K Eprom, is available for the BBC B and Master series. Users of the earlier version of Commstar will be able to obtain an upgrade.

Details from Pace Micro Technology, Juniper View, Allerton Road, Bradford BD15 7AG (0274) 488211.


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A chip off the old Music Box



Mark Jenkins looks at some new packages which utilise the improved sound chip of the Spectrum 128

Oliver's *Music Box* (£9 99) and *Music Composer* (£11 99 available from December), marketed by the Wackily named Cosmic Pop, are intended to cope with music inputs and processing and have a few features which their creators claim are unique For instance, both programs use conventional music staves but can cope with tied notes (notes joined together with a line which indicates that their values are to be added together) even if they cross bar lines

Unfortunately the Spectrum 128 can't be connected to a printer while it a in 128K operating mode, and so there is no printing facility on the *Music Composer* Otherwise the two packages are pretty similar

Music Composer does allow you to use the Spectrum s noise generator which is not normally accessible from 128K Basic and thus lets you create drum sounds as well as musical notes, the nature of the drum sound depends on the musical pitch and envelope you choose, and the tied notes are another effect inaccessible from 128K Basic

The opening Menu features the following options

1 Manuscript
2 Play Tune
3 Enter New Tune
4 Editor
5 Load From Tape
6 Save To Tape

and if you use option five to load the demo you ll come up with a rapid and lively gypsy dance played with two simple tones

The Manuscript option gives three further options – 1) melody, 2) harmony and 3) bass Each of these has a display of a seven-octave keyboard and a readout of the tempo at the top of the screen

You can select any major or minor key to play back the music although you won't be able to stop the music once you've started it playing (awkward if you just want to check a short section of your composition)

Enter New Tune (option three) lets you specify sharp or flat notes and lists the possible key signatures (some pretty complex ones are available) Then you can type in a time signature – 4/4, 12/8, even 9/16 and more obscure timings are available

"Music Composer allows you to use the Spectrum's noise generator, which is not normally accessible from 128K Basic, and thus lets you create drum sounds and musical notes."

The program helpfully points out that the spaces on the stave represent the notes FACE and the lines represent EGBDF (ACEG and GBDFA if you switch to the bass clef) and a selection of keys from the bottom of the Spectrum keyboard enter your notes You can select a new note length, ties and so on at any point

Once you ve composed a line you can change its pitch in semitonse (transposition) and set the tempo from 20–160 bpm plus a fine tune control

The Final Check option plays your tune before storing it away, and you can listen to bass, melody or harmony parts individually The Special Effects accessed from the Edit Page are really envelope controls, allowing you to choose an envelope shape and speed with various repeated envelope options for mandolin-like effects

The composer is pretty easy to use, although it is possible to crash this pre-production version with a simple *Non sense in Basic* entry Still good value for money, a nice compromise between education and fun, and limited only by the fairly simple sounds accessible from the Spectrum s sound chip

Oliver's Music Box is a simpler version of the same package but for a 48K machine The difference is that it allows you to print out your music, entering notes from the keyboard in more or less the same way Whether printing is of any interest to you depends on what applications you ll find for your music

In the Final Check mode *Music Box* fills up the empty staves a note at a time, which is a good way of spotting mistakes in your programming 5800 note capacity and 15 demo tunes make this one pretty good value for money too

Cosmic Pop can be contacted at PO Box 475, London E4 9UD



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John Cook looks through this week's new arrivals

Amstrad CPC

Program *Pipeline II* **Type** Arcade **Micro** Amstrad CPC **Price** £1 99 **Supplier** Mastertronic, 8–10 Paul St, London EC2

Or *Super Pipeline II* as it says on the loading screen A Taskset oldie circa 1985 – but none the worse for that A combination of arcade and strategy as you keep the pipeline open vs animated tools (no jokes, please)

Program *Amsoccer* **Type** Arcade **Micro** Amstrad CPC **Price** £1 99 **Supplier** IJK Software, Unit 3c Moorfields, Moor Park Avenue, Bispham, Blackpool, Lancs FY2 OJY

Program *Timetrax* **Type** Arcade Adventure **Micro** Amstrad CPC **Price** £9 95 **Supplier** Mind Games, Argus Press Software, Victory House, Leicester Place London WC2.

Program *Rocketball* **Type** Arcade **Micro** Amstrad CPC **Price** £8 90 **Supplier** IJK Software, Unit 3c, Moorfields, Moor Park Avenue, Bispham Blackpool Lancs FY2 OJY

Program *Hi Soft Forth* **Type** Utility **Micro** Amstrad CPC 6128 (disc only) **Price** £19 95 **Supplier** Hi-Soft, The Old School, Greenfield, Bedford MK45 5DE

Program *Hi Soft SeaChest* **Type** Chess **Micro** Amstrad CPC 6128 **Price** £19 95 (disc only) **Supplier** Hi-Soft, The Old School Greenfield Bedford MK45 5DE

Amstrad PC 1512

Program *Knife-86* **Type** Utility **Micro** Amstrad PC 1512 or any IBM PC compatible **Price** £29 95 **Supplier** Hi-Soft The Old School Greenfield Bedford MK45 5DE

When you change from a tape-based system to disc based you go around for days with the widest of smiles Until you get a disc error

I'm not saying that discs are unreliable – far from it – but that medium does seem to be a little more fragile than the bog standard tape All the more important you have a decent disc editor then – like *Knife 86*

Disc editors can do all sorts of useful things that you can t do direct from the operating system Like recovering a deleted file searching for a specific item of data and looking at the hidden details of the directory Sneaky huh? Besides all these features the program allows you to mess around with CP/M format discs and has a whole load of other short utility programs that might come in useful

The documentation is excellent – and although you'd find it hard going if you had no prior disc experience before some effort is made to explain the fundamentals

For the price (and this is almost budget by PC standards) you re unlikely to do better

Amstrad PCW

Program *Write-Hand Man* **Type** Utility **Micro** Amstrad PCW 8256/8512 **Price** £24 95 **Supplier** Hi Soft, The Old School Greenfield Bedford MK45 5DE

This is one of those desk-top applications that you boot up at the start of the session and run alongside your word processor Space Invaders or whatever

At a key-stroke, the other program freezes and a menu comes up on the top left of the screen offering all sorts of executive goodies such as a Notepad Calendar, Calculator and Key Editor

All this is well and good and I suspect it s been done as well as it can be on the machine, but such is the end result unless you re a really PCW loony, you re not going to be much interested in this

Program *Hi Soft Forth* **Type** Utility **Micro** PCW 8256/8512 **Price** £19 95 **Supplier** Hi Soft The Old School, Greenfield, Bedford MK45 5DE

Program *Hi-Soft SeaChest* **Type** Chess **Micro** PCW 8256/8512 **Price** £19 95 **Supplier** Hi Soft, The Old School, Greenfield, Bedford MK45 5DE

Ever wondered what went on inside your chess program? Maybe you thought you could tweak with it to make it just that little bit better?

Well, if that s the case and you're a real Hi Soft head-banger – this is the purchase of the year

It s a Chess program – not bad, too, by all accounts, except that it s written in C and Hi-Soft give you the source code as well as the compiled code So if you have Hi Soft s compiler you can get right in there and make those major changes How about putting in an offbeat Sicilian Defence? Or something mundane like redifining the characters (I ve always secretly craved a chess set depicting *Spitting Image* style members of the Cabinet)

In any case, you have to be bananas to get up to your elbows in code and sort the whole lot out (although the accompanying manual does help by explaining the basic theory and algorithms of computer chess) – but if that s your cup of tea, go for it!

Program *Rotate* **Type** Application **Micro** Amstrad PCW 8256/8512 **Price** £24 95 **Supplier** Proteus Computing 2 Iffey Road, Hammersmith London W6 0PA

I was typing out a thesis for a pal recently which naturally included several learned scientific tables And then I discovered a major problem of the stand-alone 8256 – if you're trying to print out something wider than a single sheet of A4, then you have yourself serious problems I sorted things out by redesigning the tables, but if it s a spreadsheet you happen to be dealing with then you are in the market for a utility such as *Rotate*

It ll print out a text file normal east west in addition to the 'sideways north south, and it ll do it in one of four fonts Line and Character spacing, Character width and so on can also be altered to suit Of its type, one of the best

continued on page 60 ▶

New Releases

Program *QMail* **Type** Application **Micro** Amstrad PCW 8256/8512 **Price** £29 95 **Supplier** Proteus Computing, 2 Iffey Road, Hammersmith London W6 0PA



Nothing's sacred in Antiriad

Pick of the week

Program *The Sacred Armour of Antiriad* **Type** Arcade Adventure **Micro** Commodore 64 **Price** £8 99 **Supplier** Palace Software, 275 Pentonville Road, London N1 9NL

You can argue that one arcade adventure is very much like another The making of the map The platforms and jumping The collecting of objects And it would be fair to say that *Antiriad* is not breaking radically new ground in that, yup, you make a map, jump around a bit collect objects, etc, etc, but it would also be fair to say that it does it very well In fact, a more polished and well thought out product you d go a long way to find – It s the way Palace seem to do things and like to be seen to do things

Antiriad involves you playing the part of Tal (that s Lat backwards of course – very significant) one of a post holocaust race of humanoids who are now enslaved by aliens Your job is to find the Sacred Armour (not difficult) activate it (much harder) and then go on to wipe the oppressors out (really difficult) At least we got as far as the Armour

Of the two versions we ve seen so far, the Commodore is graphically very impressive but the play seems to flow a little better, in some ways, on the Spectrum Maybe the Amstrad will have the best of both worlds who knows? But what you will get for your money in this case is a game that has had considerable effort and thought in all aspects of the programming and design contains some cute touches and looks like it will take some time in the solving



Atari ST

Program *The Pinball Factory* **Type** Arcade **Micro** Atari ST **Price** £19 95 **Supplier** Microdeal, PO Box 68 St Austell, Cornwall PL25 4YB

Pinball – in case you didn t know it – is making a comeback Go into your local arcade and you ll see some pretty snazzy tables complete with multiple playing areas, sampled sound effects and more flashing lights than the average Miss Selfridge The only problem is that it s an expensive pastime 10 pence per ball (the standard price in central London I m afraid) is on the steep side – so maybe if you re an ST owner you might want to try this one

Pinball Factory is, as you might expect, a pinball construction program, which gives you the chance to design your own tables, and then play then on your ST And it's not bad

Designing a table is simple enough using typical mouse 'drag and click' techniques – in fact a primitive art section is included for those impressive logos on the table surface Results (as shown in the single demo table – why only one?) can be excellent, depending on the amount of time you re prepared to put into the thing

Selections of bumpers and drop down targets can be selected and positioned no possibility of multiple flippers however, a common feature of many modern tables Bumper reaction, ball speed bonus scores and gravity effects can be varied – all good stuff And think of all those 10p s you'll be saving

Program *Electronic Pool* **Type** Arcade **Micro** Atari ST **Price** £19.95 **Supplier** Microdeal Box 68, St Austell, Cornwall PL25 4YB

BBC/Electron

Program *Quest For Freedom* **Type** Arcade **Micro** Electron **Price** £1 99 **Supplier** IJK Software Unit 3c, Moorfields Moor Park Avenue Bispham, Blackpool, Lancs FY2 0JY

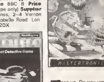
Errrr – isn t there something familiar here? Last week, Audiogenic pushed out something very similar for about seven quid Has someone got their wires crossed?

Program *Cluedo* **Type** Strategy **Micro** BBC B **Price** £12 95 (tape only) **Supplier** Virgin Games, 2–4 Vernon Yard, Portobello Road London W11 2DX

C16/Plus 4

Program *Saboteur* **Type** Arcade **Micro** Commodore 16/Plus 4 **Price** £9 95 **Supplier** Durell Computers Castle Lodge, Castle Green Taunton TA1 4AB

Program *POD* **Type** Arcade **Micro** Commodore 16/Plus 4 **Price** £1 99 **Supplier** Mastertronic, 8–10 Paul Street London EC2



Eese up Do you remember back in the old days when 48K was a faraway dream and games were minimal but damn good stuff? Relive those heady days with *POD* on the C16

Similar in many ways to that classic *Gridrunner*, this too is a *Centipede* variant (albeit 3rd generation) Zap, Blast Kop The action is fast, the nasties are mean – it s sensory overload time as you dodge your way through the hail of bullets and the like,

blasting away like crazy

Sophisticated no, but if there was an award for fun per farthing – this would get it

Program *Video Meanies* **Type** Arcade **Micro** Commodore 16/Plus4 **Price** £1 99 **Supplier** Mastertronic 8–10 Paul Street London EC2



Another C16 job – but what the hell – it is only two quid? Squidgy block type graphics, fairly simple gameplay but it has a certain lure. Maybe a few of the more up market programmers ought to take a look at some of these games once in a while, if only to get back to their programming roots – then we might get some enthusiasm back into some of the full price market

Commodore 64

Program *Street Surfer* **Type** Arcade **Micro** Commodore 64 **Price** £2 99 **Supplier** Mastertronic, 8–10 Paul Street, London EC2

It's a sort of Greenpeace version of *Hang On* – you're on a skateboard avoiding cars, re-cycling empty cola bottles (surely this isn't a Virgin game?), taking drinks from strange men – that sort of thing. Faboy stuff

Program *180* **Type** Arcade Simulation **Micro** Commodore 64 **Price** £2 99 **Supplier** Mastertronic, 8–10 Paul Street London EC2

Program *Glider Rider* **Type** Arcade **Micro** Commodore 64 **Price** £8 95 **Supplier** Quicksilva, Argus Press Software, Victory House, Leicester Place, London WC2

Almost identical to the Spectrum version – up to and including the soundtrack – a tribute to the 128/Plus 2's capabilities

Program *Rocketball* **Type** Arcade **Micro** Commodore 64 **Price** £6 95 **Supplier** IJK Software, Unit 3c Moorfields, Moor Park Avenue Bispham, Blackpool, Lancs FY2 0JY

Gasp – a re-release of a title that made the *Commodore Horizons* Top Three of 1985. Roller ball-type action that might not make you gasp with wonder at its technical wizardry, but is suitably addictive for those with a violent disposition. Probably still worth the price 12 months on. Altogether now – Houston Houston, Houston, Houston

Program *Fist II – The Legend Continues* **Type** Arcade **Micro** Commodore 64 **Price** £9 95 **Supplier** Melbourne House, 60 High Street, Hampton Wick, Kingston upon Thames, Surrey KT1 4D8

Program *Shanghai* **Type** *Strategy* **Micro** Commodore 64 **Price** £12 99 (disc only) **Supplier** Activision UK, 23 Pond Street, London NW3

Shanghai – I was under the impression it was darteeze for getting the treble, double and a single of one number – but no, as far as Activision is concerned, it's a captivating strategy challenge derived from the ancient Chinese game of Mah Jongg

Well, let's get things straight first – *Shanghai* is a strategy challenge derived from the ancient English game of Patience – but using Mah Jongg tiles instead of the conventional playing cards. The rules are simple enough – you find pairs of tiles (among the 144), match them up and so remove them from the board. The complication is that the tiles are built up in a pattern of stacks and lines called The Dragon – and the only tiles eligible for pairing are those both visible and at the end of a line

Various game options are given – you can play solitaire, against an opponent but most interestingly of all against the clock. This puts that little bit of extra excitement and pressure on the participants

The graphics are, on the Commodore 84, frankly, bad. White tiles on a red background, not only is this dull, but it makes tile recognition a big problem. On the Amiga however – wow! The display simply looks like a pile of beautifully designed Mah Jongg tiles

Initially, especially after viewing the Amiga version, we hooted at *Shanghai* on the 64. Since then, however the game has proved unnervingly addictive to one member of staff – this game certainly has some lure that you might like to try out. Pricey for what it is, though

Spectrum

Program *180* **Type** Arcade Simulation **Micro** Spectrum **Price** £2 99 **Supplier** Mastertronic 8–10 Paul Street, London EC2

Program *Crimebusters Inc* **Type** Arcade **Micro** Spectrum **Price** £6 90 **Supplier** IJK Software Unit 3c Moorfields Moor Park Avenue, Bispham, Blackpool, Lancs FY2 0JY

Program *Caretaker* **Type** Educational **Micro** Spectrum **Price** £6 00 **Supplier** The Boo Software 8 Byrony Way, Dunstable, Beds

This is certainly a release with its heart in the right place – a program to attempt to teach children about how to deal with various 'dangers in their environment'. As it happens, these vary from playing with matches and medicine bottles through to dealing with strangers

The program (written in pretty unsophisticated Basic) presents various situations in a quiz/multiple choice format with the correct answer given straight after

Possibly of some use in a classroom situation (and it is being converted to the BBC soon), it's not striking enough to use on unsupervised kids, and while the budding market in sex manuals for children might suggest there are quite a number of silly parents in the world, surely no-one would be too embarrassed to tell their offspring about these kinds of things, would they?

Program *Hi-Soft Basic* **Type** Utility **Micro** Spectrum **Price** £15 95 **Supplier** Hi-Soft, The Old School, Greenfield, Bedford MK45 5DE

What have ZX Spectrum owners been waiting, literally years, for? What else? 'A fast, floating-point Basic compiler'. And there was me thinking it was a decent version of *Defender*. No laughing in the back of the class there – the specs make this look like a first class compiler – keep your eyes peeled for a full review on the Software pages soon

No changes here, thanks

Whatever happened to change in the personal computer industry that brave new world of 32 bit super PC's with more memory than a machine code crazed hacker could have dreamed of in 1980 Change? What change? Just look at some of the newest machines on the market

1) The Sinclair ZX Spectrum 128+2 The latest restyle of a machine which first came on the market way back in 1982
2) The Commodore C64C A 'replacement for the 64
3) The BBC Master Compact A dressed up version of the old BBC Micro with the odd added doobrie to make it look a little jazzier and up to date
4) The Amstrad PC1512 A nice inexpensive IBM PC compatible machine

So there we have four 'new releases based on technology going back some four and in the case of the Amstrad PC five years So what happened to this change thing anyway?

Cast your mind back to the late seventies If you were fairly well-off, you might run to a Commodore Pet a Nascom, a Tandy TRS-80, or even an Apple II

Then suddenly the world in general discovered personal computing and things started to change

This period of metamorphosis was incredibly rapid Machines facilities started to increase and the prices to fall Maybe the catalyst that sparked off this rapid change was none other than Clive Sinclair, who I seem to remember was once quoted as seeing no future for the computer in the home, and many a machine had its heyday trying to compete with Clive s little black box

Then suddenly the rapid changes slowed, and have almost ground to a halt when we find ourselves in the situation described above

Change in the PC industry seems almost to have dried up but maybe the reasons for this are amongst the following As the technology advances, so it becomes more expensive and people are unwilling to risk spending a large sum of money on a machine if they fear it is to become obsolete within a short time Also with the increase in complexity, software development time increases and this means some measure of stability is necessary The people who are spending the real money demand more sophistication and to be able to plug in and go, and do something useful

The IBM standard has been around now for five years since the release of the IBM PC in America even though it took longer to reach our shores I ll be cynical here and say that the major selling point of the PC was the fact that it was manufactured by IBM Although the standard has been updated, with faster, improved processors, leading to the XT and AT, at heart the standard is more or less the same, with no great change since 1981 only face-lifts

Okay, so there are the mavericks The Apple Macintosh has never really achieved the same following or appreciation as the II, being regarded in some quarters as a toy for the rich', and be honest can anyone actually see the IIGS catching on? Then of course we have the Atari ST range which isn t all it might be, and the all time hard-core compu-freaks fantasy machine the Commodore Amiga, which admittedly looks very nice but its not for the individual at that price!

The IBM standard may not be the best, but it has sold many a machine and will sell many more

Software sells hardware and a machine without software will find it difficult to compete with a machine that has lots of software, even though the newer machine may have more features, more memory The other lessons learnt over the years are that a new machine is bound to have some bugs in it Give a machine some time though and eventually people will discover if not all then at least the worst ones And of course in this day and age a machine with no standard operating system is going to be a real dead duck

Change – who needs it anyway?

Antony J Shepherd

NEXT WEEK

Hardware

Joyball

Another designer joystick from Euromax the Joyball is put through its paces How does it stand up to three days of non stop alien-zapping? Chris Jenkins carries out the tests

Disciple

Could this be the ultimate Spectrum add-on? Rockfort s general purpose Disciple contains both a disc and printer interface among its connections Read the full review in *Popular*

Championship Bowls

All those sports simulations on the market, and no-one thought of Bowls except Colin Speed, that is

Type in Colin's Spectrum machine code listing for a free Championship Bowls game

PCW Database

Keep your names and addresses handy with our card index database listing for the PCW machines

Games

Academy from *Tau Ceti* author Pete Cooke, plus *The Colour of Magic,* Fergus McNeill's latest opus

Hackers

Our latest machine DEMANDS a REALLY first-rate name.
THUMP!
So I propose that we call it:- 'One-per-country'.






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